Collection of Native North American Indian Books, Historical Books, Atlases, plus other important authors and family heirloom books.
As of 12-31-93

Earl Ford McNaughton
Earl Ford McNaughton

PROCEEDINGS

OF THE

TWENTY-THIRD INTERNATIONAL CONGRESS OF AMERICANISTS

Held at New York, September 17-22, 1928.

NEW YORK
1930

THE SCIENCE PRESS PRINTING COMPANY
LANCASTER, PA.

CONTENTS

Page

Authority for the Twenty-Third Session ix
Authority for the Twenty-Fourth Session ix
Articles of the Statutes approved by the Bureau and Council, Paris, 1900 x
Previous Sessions of the International Congress of Americanists xiii
Officers of the Congress xvii
Government Delegates xix
Delegates from Institutions and Societies xx
List of Members xxiv
General Program of the Session xxxv
Constituting Meeting xxxvii
Opening Meeting xxxvii
Special Features of the Congress xlii
  Daily Meetings xlii
  Papers Presented xlii
  Exhibits for the Congress xliii
  Exhibits by the Congress xliii
  Literature presented to the Congress xliii
  Popular Lectures and Motion Pictures xliv
  Functions and Entertainments xliv
Meetings of the Governing Bureau and Council xlvi
Closing Meeting xlix
  Preliminary Remarks xlix
  Recommendations of the Governing Bureau and Council xlix
  Communications in re American Institute of Genoa xlix
  Closing Remarks l
  Final Report of the Secretary li

PAPERS PRESENTED TO THE CONGRESS

Archaeology:

Cultural Relations between North and South America. A. L. Kroeber 5
Wann Kamen die Indianer nach Nordamerika? Albrecht Penck 23
Desarrollo y Origen de las Civilizaciones Americanas. Max Uhle 31
Migrations from Asia to America and their Traces. Aleš Hrdlička 44
Les Idées Récentes sur le Peuplement de l'Amérique. L. Capitan 45
Prehistoric Cultural Areas East of the Rocky Mountains. Warren King Moorehead 47
The Committee on State Archaeological Surveys of the Division of Anthropology and Psychology, National Research Council. Carl E. Guthe 52
Precious Stones used by the Prehistoric Residents of the American Continent. George Frederick Kunz 60
Ancient Pueblo Subsistence. Walter Hough 67
Pueblo Bonito and Its Architectural Development. Neil M. Judd 70
Notes on the Middle Cultures of Middle America. George C. Vaillant 74
A Deity Common to Teotihuacan and Totonac Cultures. Hermann Beyer 82
Decorative Aspects of Certain Types of Mexican Pottery. Eduardo Noguera 85
Influencia de la Sal en la Distribución Geografica de los Grupos Indigenas de Mexico. Miguel O. de Mendizábal 93

Page

Las Plantas Sagradas de los Aztecas y su Influencia sobre el Arte Precortesiano. Alfonso Toro 101
An Aztec Account of the Period of the Toltec Decline. Benjamin L. Whorf 122
Un Codice en Otomí. Alfonso Toro 130
Factors which may lead to a Correlation of Maya and Christian Dates. John E. Teeple 136
The Eclipse Table of the Dresden Codex. H. J. Spinden 140
The Mayan Lunar Table. Juan Martínez Hernández 149
Maya and Toltec Figures at Chichen Itza. Alfred M. Tozzer 155
Preliminary Notes on Two Important Maya Finds. Frans Blom 165
Exploración en la Pirámide de Tenayuca por la Direccion de Arqueologia de Mexico. José Reygadas Vertiz 172
The Causeways of the Coba District, Eastern Yucatan. J. Eric Thompson 181
The Excavations at Uaxactun. Oliver Ricketson, Jr. 185
Recently discovered Maya City in the Southwest of British Honduras. Thomas Gann 188
The Infix in Maya Hieroglyphs—Infixes touching the Frame. Hermann Beyer 193
The Symbolic Plan of Palenque. Stansbury Hagar 200
The Aztec Calendar Stone and its Significance. Erwin P. Dieseldorff 211
Die Erhaltung der Altindianischen Stein-Denkmäler. Karl Sapper 223
Die Ausstrahlung der San Agustin-Kultur (Kolumbien) in Amerika. K. Th. Preuss 233
La Remocion del Cingulo Climaterico como Factor del Despueble del Altiplano y Decadencia de su Alta Cultura. Arthur Posnansky 235
Späte Mastodonten in Ecuador. Max Uhle 247
Andean Civilization: Some Problems of Peruvian Archaeology. Julio C. Tello 259
El Templo del Sol de los Incas en Cuzco. Max Uhle 291
El Clister en el Antiguo Peru. L. Vélez Lopez 296
Notas Cronologicas de Tihuanacu. Arthur Posnansky 298
La Antigüedad del Hombre en la Región de Sayape, Provincia de San Luis, República Argentina (Nota Preliminar). Héctor Greslebin 305
Comechingon Pottery. G. A. Gardner 313
Funde Altsteinzeitlicher Werkzeuge im Alto Paraná Gebiet. F. C. Mayntzhusen 347
Arqueologia del Departamento de Lima—Caracteres Fundamentales de la Arquitectura Andino-Costeña. Pedro Eduardo Villar Cordova 351
Excavations of Eskimo Thule Culture Sites at Point Barrow, Alaska. J. Alden Mason 383
Notes on Knud Rasmussen's Archaeological Collections from the Western Eskimo. Therkel Mathiassen 395

ETHNOLOGY:

New Data on the Types and Distribution of Reindeer Breeding in Northern Eurasia. Waldemar G. Bogoras 403
Bear Worship among the Turkish Tribes of Siberia. N. P. Dyrenkova 411
The Shamanistic Call and the Period of Initiation in Northern Asia and Northern America. Waldemar G. Bogoras 441
Cultural Work among the Lesser Nationalities of the North of U. S. S. R. Waldemar G. Bogoras and N. J. Leonov 445
The Ancient and Present Kamchadal and the Similarity of their Culture to that of the Northwestern American Indians. Waldemar Jochelson 451
Musical Styles in North America. George Herzog 455
Form and Interpretation in American Art. Gladys A. Reichard 459
Indian Gifts in Relation to Primitive Law. H. Newell Wardle 463
On the Origin of Eskimo Culture. Kaj Birket-Smith 470
Aleut Hunting Headgear and its Ornamentation. S. V. Ivanov 477
The Modern Growth of the Totem Pole on the Northwest Coast. Marius Barbeau 505
The Origin of Floral and other Designs among the Canadian and Neighboring Indians. Marius Barbeau 512

PAGE

Field Notes on Northern Algonkian Magic. JOHN M. COOPER 513

Was Cross-Cousin Marriage practised by the North-Central Algonkian? A. IRVING HALLOWELL 519

Note on Fox Gens Festivals. TRUMAN MICHELSON 545

Some Cherokee Methods of Divination. FRANS M. OLBRECHTS 547

The Natchez Social Class System. J. P. B. DE JOSSELIN DE JONG 553

Some Aspects of Siouan Kinship. A. LESSER 563

Psychological Types in the Cultures of the Southwest. RUTH BENEDICT 572

Spanish Elements in the Kachina Cult of the Pueblos. ELSIE CLEWS PARSONS 582

A Comparative Study of Keresan Medicine Societies. LESLIE A. WHITE 604

The Navaho Population Problem. FREDERICK L. HOFFMAN 620

L'Evangelizzazione e i Costumí degli Indi Luiseños Secondo la Narrazione di un Chierico Indigeno. CARLO TAGLIAVINI 633

Le Manteau de Plumes dit de ''Montézuma'' des Musées Royaux du Cinquantenaire de Bruxelles. J. S. HARRY HIRTZEL 649

A Modern Survival of the Ancient Maya Calendar. S. K. LOTHROP 652

The Ceremonial Year at Jacaltenango. OLIVER LA FARGE 656

Los Bailes de Culebra entre los Indios Quichés en Guatemala. FRANZ TERMER 661

Cuna Indian Religion. ERLAND NORDENSKIÖLD 668

Die Frage Eventueller Alter Kulturbeziehungen zwischen dem Südlichsten Südamerika und Südostaustralian. WILHELM KOPPERS 678

Das Brüderpaar in der Südamerikanischen Mythologie. MARTIN GUSINDE 687

The Blowgun in America, Indonesia, and Oceania. NOEMIE G. SPRINZIN 699

Tipos de Tienda usados por los Aborigines Sudamericanos. ENRIQUE PALAVECINO 705

The Social Organization of the Bush-Negroes of Suriname. MELVILLE J. HERSKOVITS 713

Ornaments of the Bush-Negroes in Dutch Guiana; a Further Contribution to Research in Bush-Negro Art. L. C. VAN PANHUYS 728

La Navegación Primitiva y las Canoas Monoxilas (Contribución a su Estudio). FERNANDO MÁRQUEZ MIRANDA 736

Um Enorme Machado Crescente dos Indios do Brasil. ANTONIO CARLOS SIMOENS DA SILVA 747

The Expedition of G. I. Langsdorff to Brazil in 1821–1829. I. D. STRELNIKOV 751

Les Kaingangs de Sao Paulo. H. H. MANISER 760

Une Moustiquaire des Indiens Guatós (Brésil). ANTONIO CARLOS SIMOENS DA SILVA 792

La Música y la Danza de las Tribus Indias Kaa-Ihwua (Guarani) y Botocudo. I. D. STRELNIKOV 796

Fabricacion de Alfarería Moderna en la Region Serrana de la Provincia de Cordoba (República Argentina). FRANCISCO DE APARICIO 803

Christopher Columbus and Aboriginal Indian Words. THE REVEREND JAMES WILLIAMS 816

PHYSICAL ANTHROPOLOGY:

Some Points in the Morphologic Evaluation of the American Indian. BRUNO OETTEKING 853

Note on Shoshoni Anthropometry. TRUMAN MICHELSON 856

Ricerche e Risultati intorno agli Indigeni Americani. GIUSEPPE SERGI 857

Su Alcuni Caratteri del Cranio Faciale degli Antichi Peruviani. LIDIO CIPRIANI 866

Contribution to the Anthropology of Northeast Asiatic Tribes. BORIS VISHNEVSKY 881

LINGUISTICS:

Eskimo as a Linguistic Type. WILLIAM THALBITZER 895

Frammento d'un Dizionarietto Luiseño-Spagnuolo Scritto da un Indigeno. CARLO TAGLIAVINI 905

Un Vocabulario Chichimeca. P. GONZÁLEZ CASANOVA 918

Über die Mayasprache von Chicomucelo. FRANZ TERMER 926

INDEX 937

PROCEEDINGS

OF THE

TWENTY-THIRD INTERNATIONAL CONGRESS

OF

AMERICANISTS

AUTHORITY FOR THE TWENTY-THIRD SESSION

At the Closing Meeting of the Twenty-Second Congress,
Rome, September 30, 1926,

It Was Resolved:

"The next meeting of the International Congress of Americanists, the twenty-third session, shall be held in New York in 1928, in response to the invitation of the American Museum of Natural History; Columbia University in the City of New York; Brooklyn Museum; Museum of the American Indian, Heye Foundation; American Ethnological Society; New York Academy of Sciences; and the Archaeological Institute of America.

In accordance with Article 4 of the Statutes, Professor Franz Boas, Mr. Stewart Culin, Doctor Pliny Earle Goddard, Mr. George G. Heye, Doctor Alfred V. Kidder, shall be intrusted with the organization and arrangements."

AUTHORITY FOR THE TWENTY-FOURTH SESSION

At the Closing Meeting of the Twenty-Third Congress,
New York, September 22, 1928,

It Was Resolved:

"That the invitation extended by the Senate of Hamburg be accepted and that the twenty-fourth session of the International Congress of Americanists be held in Hamburg, Germany, in 1930.

In accordance with Article 4 of the Statutes, the following persons shall be intrusted with the organization and arrangement:—

Professor Georg Thilenius
Professor Doctor Hans Kuchler
Professor A. Warburg."

ARTICLES OF THE STATUTES APPROVED BY THE BUREAU AND COUNCIL, PARIS, 1900

Statuts

Paris, 1900

Article Premier.—Le Congrès International des Américanistes a pour objet l'étude historique et scientifique des deux Amériques et de leurs habitants.

Art. 2.—Ce Congrès a lieu tous les deux ans; autant que possible il alternera ses sessions entre l'Ancien et le Nouveau Monde; il ne peut pas siéger deux fois de suite dans le même pays.

Art. 3.—Il se compose de la réunion des personnes qui en ont fait la demande et ont aquitté leur cotisation.

Art. 4.—A la fin de chaque session, le Congrès désigne le lieu où se tiendra la session suivante et choisit un certain nombre de personnes chargées de constiteur dans le lieu désigné un Comité d'organisation.

Art. 5.—Le Comité nomme son président et recrute à sa guise ses membres residants et correspondants.

Art. 6.—Le Comité fixe la date exacte de la session, le nombre des séances, le taux de la cotisation, rédige le programme et les questionnaires; prépare, s'il y a lieu, les rapports préliminaires à produire au Congrès, envoie les convocations, reçoit les adhésions et délivre les cartes de membres.

Art. 7.—Le Comité est chargé de tous les soins matériels qui concernent les installations du Congrès et la tenue des séances.

Art. 8.—Les questionnaires rédigés par le Comité sont envoyés d'avance aux adhérents; ceux-ci peuvent proposer à l'acceptation du Comité les modifications qui leur paraîtraient utiles. Une partie des séances de chaque session est d'ailleurs réservée aux questions non comprises dans le programme qui seraient proposées par un membre et acceptées par le Comité.

Art. 9.—Le Bureau du Comité remplit les fonctions de bureau provisoire dans la première séance de la session. Les membres du bureau définitif sont nommés dans cette séance.

Art. 10.—Le bureau définitif se compose d'un président, de six vice-présidents, dont deux au moins appartiennent au pays où siège le Congrès, d'un secrétaire général, de quatre secrétaires et du trésorier.

Art. 11.—Le Congrès peut décerner à des personnes qui se sont signalées par les services rendus aux études américaines les titres de président ou de vice-président d'honneur.

Art. 12.—Un Conseil est adjoint au bureau: il doit comprende, autant que possible, des membres de toutes les nationalités représentées dans le Congrès.

Art. 13.—Le Bureau et le conseil réunis sont chargés d'examiner les voeux présentés au Congrès et d'en faire l'objet de rapports, s'il y a lieu; ils statueront aussi sur les réclamations qui pourraient surgir, étudieront les modifications à introduire au règlement, les propositions relatives au siège du futur Congrès, enfin détermineront la destination à donner aux livres et objets offerts, qui doivent d'ailleurs toujours appartenir au pays dans lequel a lieu la session.

Art. 14.—Une commission de cinq membres régnicoles est adjointe au secrétaire général et au trésorier pour constituer un comité de publication qui a les pouvoirs les plus étendus pour publier les actes du Congrès et en apurer les comptes. Ce Comité surveillera la distribution des volumes.

Art. 15.—Un Conseil permanent, composé des anciens présidents et secrétaires généraux, est chargé de maintenir la tradition du Congrès, de veiller à la bonne exécution des règlements et de faire face aux difficultés imprévues qui pourraient surgir dans l'intervalle de deux sessions. Le président et le secrétaire général de la dernière session exercent les mêmes fonctions auprès du Conseil permanent et engageront les négociations relatives à la tenue du prochain Congrès qui aura lieu dans le même continent.

Additions—(Session de Londres, 1912, Proceedings I, 1913, pp. lviii–lix):

À l'Art. 3.—Le Comité d'Organisation peut refuser la demande d'adhésion de membre ou associé aux personnes qui, dans un Congrès anterieur, auront quitté la voie de la Science et créé des désagréments ou du trouble.

À l'Art. 15.—Le Secrétaire général actuel doit se tenir en rapport avec les membres du Conseil permanent. À la fin de chaque session il doit faire une liste des membres survivants du Conseil permanent et en rendre compte au Secrétaire général du Congrès suivant.

Additions a l'Art. 14—(Session de New York, 1928, Proceedings 1930, pp. xlvii–xlviii):

1. Le Comité de Publication devra inserer dans les comptes-rendus une note annoncant l'institution ou la librairie dans laquelle les archives ont été deposées.
2. Le Comité de Publication devra placer cent (100) exemplaires des comptes-rendus chez un librairie qui agira à titre de vendeur autorisé.

TRANSLATION

Art. 1.—The International Congress of Americanists has for its object the historic and scientific study of the two Americas and their inhabitants.

Art. 2.—The Congress takes place every two years; as far as possible it shall alternate its sessions between the Old and New Worlds; it cannot meet twice following in the same country.

Art. 3.—It is composed of the reunion of the persons who have requested admission and paid their subscription.

Art. 4.—At the end of each session the Congress designates the place where the next session shall be held, and chooses a certain number of persons charged to constitute an Organizing Committee at the designated place.

Art. 5.—The Committee names its President, and chooses at its pleasure its resident and corresponding members.

Art. 6.—The Committee fixes the exact date of the session, the number of sittings, the amount of subscription, arranges the program, and the questions to be treated; prepares, if there is occasion, the preliminary reports to be produced at the Congress, sends the invitations, receives adhesions, and delivers members' tickets.

Art. 7.—The Committee takes charge of all the necessary arrangements which concern the places of meeting of the Congress and the holding of sittings.

Art. 8.—The lists of subjects considered by the Committee are sent beforehand to the members; these may propose for the Committee's acceptance such

modifications as appear to them useful; a part of the sittings of each session is also reserved for questions not comprised in the program, which may be proposed by a member and accepted by the Committee.

Art. 9.—The Bureau of the Committee performs the functions of a Provisional Bureau during the first sitting of the session. The members of the final Bureau are nominated during the sitting.

Art. 10.—The final (définitif) Bureau is composed of a President, of six Vice-Presidents, of whom two at least belong to the country in which the Congress is held, a General Secretary, four Secretaries, and the Treasurer.

Art. 11.—The Congress may confer on persons noted for services rendered by them to American studies the titles of Honorary President or Vice-President.

Art. 12.—A Council is attached to the Bureau; it should include, as nearly as possible, members of all the nationalities represented at the Congress.

Art. 13.—The Bureau and Council united have to examine resolutions presented to the Congress, and to make reports on them, if necessary; they will pronounce on any appeals which might arise, will study the modifications to be introduced in the rules, the propositions relative to the seat of the next Congress, and will determine the distribution of books and objects offered to the Congress, which must always belong to the country in which the session takes place.

Art. 14.—A commission of five local members is united with the General Secretary and the Treasurer to constitute a Committee of Publication, which has the fullest authority to publish the proceedings of the Congress and clear up the accounts. This Committee will see to the distribution of the volumes.

Art. 15.—A Permanent Council composed of the former Presidents and General Secretaries is charged to maintain the tradition of the Congress, to watch over the proper execution of the regulations, and to face the unforeseen difficulties which might arise in the interval between two sessions. The President and General Secretary of the previous session exercise the same functions towards the Permanent Council, and will arrange the negotiations relating to the holding of the next Congress which will take place on the same continent.

Additions, adopted at the London Congress, 1912 (Proceedings, I, 1913, pp. lviii–lix):

To Art. 3.—The Organizing Committee can refuse the application for either regular or associate membership to persons who, in any preceding Congress, have strayed from the ways of science or caused disagreements or trouble.

To Art. 15.—The Secretary General should stand in touch with the members of the Permanent Council. At the conclusion of each session he should make a list of the surviving members of the Council and transmit it to the Secretary of the succeeding Congress.

Amendments to Article 14, adopted at the New York Congress, 1928 (Proceedings, 1930, pp. xlvii–xlviii):

1. The Publication Committee shall insert in the published Proceedings a statement announcing the institution or library in which the archives have been deposited.

2. The Publication Committee shall place one hundred (100) copies of the published Proceedings with a bookseller, who is to act as the authorized sales agent.

PREVIOUS SESSIONS OF THE INTERNATIONAL CONGRESS OF AMERICANISTS

I. NANCY, 1875.
President: Baron de Dumast, Correspondent of the Institut de France.
General Secretary: A. Rambaud, Professor in the Faculté des Lettres at Caen.
Proceedings, two volumes.

II. LUXEMBOURG, 1877.
President: Wurth-Paquet, President of the Supreme Court of Justice.
General Secretary: Dr. Heurion, Professor in the Luxembourg Athenaeum.
Proceedings, two volumes.

III. BRUSSELS, 1879.
President: A. C. A. L. Baron Goethals, retired Major-General, ex-Minister of War.
General Secretary: A. Bamps, D.L., Member of the Belgian Geographical Society.
Proceedings, two volumes.

IV. MADRID, 1881.
President: José L. Albareda, Ministerio de Fomento.
General Secretary: Captain C. Fernández Duro, Vice-President of the Geographical Society of Madrid.
Proceedings, two volumes.

V. COPENHAGEN, 1883.
President: J. J. A. Worsaae, Director of the Ethnographical and Archaeological Museums.
General Secretary: Captain W. A. Carstensen, Director of the Naval School.
Proceedings, one volume.

VI. TURIN, 1886.
President: Prof. Ariodante Fabretti.
General Secretary: Prof. Guido Cora.
Summary of Proceedings, one volume.

VII. BERLIN, 1888.
President: Dr. W. Reiss, President of the Anthropological Society of Berlin.
General Secretaries: Dr. G. Hellman.
Dr. O. Olshausen.
Proceedings, one volume, illustrated.

VIII. PARIS, 1890.
President: Dr. A. de Quatrefages de Bréau, Membre de l'Institut.
General Secretary: Désiré Pector, Consul for Nicaragua in Paris.
Proceedings, one volume.

IX. HUELVA, 1892.
President: A. Marie Fabié, ex-Foreign Minister.
General Secretary: Justo Zaragoza, Member of the Academia de Historia.

X. STOCKHOLM, 1894.
Presidents: Baron Gustav Tamm, Governor of Stockholm.
Dr. R. Virchow, Professor in the University of Berlin.
Baron A. E. Nordenskiöld.
General Secretary: Dr. C. Bovallius.
Proceedings, one volume.

XI. MEXICO, 1895.
President: Lic. Joaquin Baranda, Minister of Justice and Public Instruction.
General Secretary: T. Sanchez Santos.
Proceedings, one volume.

XII. PARIS, 1900.
President: Dr. E. T. Hamy, Membre de l'Institut.
General Secretary: Henri Froidevaux, Dr. des Lettres, General Secretary of the Société des Américanistes de Paris.
Proceedings, one volume.

XIII. NEW YORK, 1902.
President: Morris K. Jesup, President of the American Museum of Natural History.
General Secretary: Marshall H. Saville, American Museum of Natural History.
Proceedings, one volume.

XIV. STUTTGART, 1904.
President: Dr. Karl von den Steinen, Professor in the University of Berlin, Director of the Royal Ethnographic Museum, Berlin.
General Secretary: Dr. Professor K. Lampert, Member of the Higher Council of Public Instruction, Stuttgart.
Proceedings, two volumes, illustrated.

XV. QUEBEC, 1906.
President: Dr. R. Bell, Geological Survey of Canada.
General Secretary: Dr. N. E. Dionne, Member of the Royal Society of Canada, Librarian of the Legislature of the Province of Quebec.
Proceedings, two volumes.

XVI. VIENNA, 1908.
President: Wilhelm, Baron von Weckbecker, K.u.K. Hofrat, Kanzleidirektor im S.M. Oberstkämmereramt.
General Secretary: Dr. F. Heger, K.u.K. Regierungsrat, Director of the Anthropological Department, K.K. Natural History Museum, Vienna.
Proceedings, two volumes, illustrated.

XVII. BUENOS AIRES, May, 1910.
President: Dr. J. N. Matienzo, Dean of the Faculty of Philosophy and Letters in the National University of Buenos Aires.
General Secretary: Dr. R. Lehmann-Nitsche, Chief of the Museo de la Plata.
Proceedings, one volume, illustrated.

XVII. Second Session.—MEXICO, September, 1910.
President: Dr. E. Seler, Professor, University of Berlin.
General Secretary: Lic. José Romero.
Proceedings, one volume, illustrated.

XVIII. LONDON, May, 1912.
President: Sir Clements R. Markham.
Secretaries: F. C. A. Sarg.
Adela C. Breton.
Proceedings, two volumes, illustrated.

XIX. WASHINGTON, 1915.
President: The Honorable John W. Foster.
General Secretary: Dr. Aleš Hrdlička.
Proceedings, one volume, illustrated.

XX. RIO DE JANEIRO, 1922.
President: Dr. Antonio Carlos Simoens da Silva.
General Secretary: A. Morales de los Rios.

XXI. THE HAGUE, 1924.
FIRST SESSION
President: TH. F. A. DELPRAT, President of the Royal Geographical Society of the Netherlands.
General Secretary: DR. D. ALBERS.
Proceedings, one volume, illustrated.

GÖTEBORG, 1924.
SECOND SESSION
President: S. E. OSCAR VON SYDOW, ex-President of the Council of Ministers, Governor of the Province of Göteborg and of Bohus.
General Secretary: BARON ERLAND NORDENSKIÖLD, Professor at the University of Göteborg.
Proceedings, one volume, illustrated.

XXII. ROME, 1926.
President: S. E. PROF. AMEDEO GIANNINI.
General Secretary: PROF. GUIDO VALERIANO CALLEGARI.
Proceedings, two volumes, illustrated.

XXIII. NEW YORK CITY, 1928.
President: PROF. FRANZ BOAS.
General Secretaries: P. E. GODDARD (Deceased).
N. C. NELSON.
Proceedings, one volume, illustrated.

TWENTY-THIRD INTERNATIONAL CONGRESS OF AMERICANISTS

Held in New York City, September 17–22, 1928

Under the patronage of the United States Government, and under the auspices of the American Museum of Natural History, Columbia University, Museum of the American Indian (Heye Foundation), Brooklyn Institute of Arts and Sciences, American Ethnological Society, New York Academy of Sciences, and the Archaeological Institute of America.

HONORARY OFFICERS

Presidents

Henry Fairfield Osborn, President of the American Museum of Natural History, New York City.

George G. Heye, Founder and Director of the Museum of the American Indian, New York City.

Edward C. Blum, President of the Institute of Arts and Sciences, Brooklyn, N. Y.

Nicholas Murray Butler, President of Columbia University, New York City.

Vice-Presidents

V. Bohet, Professor of the University of Liège, Delegate of the Government of Belgium.

Joseph H. Sinclair, Delegate of the Government of Ecuador and of the Academy of History of Ecuador.

Louis Cazamian, Professor of the University of Paris, Delegate of the Government of France.

Nicholas S. Kaltchas, Professor of History, University of Michigan, Delegate of the Government of Greece.

Emanuele Grazzi, Consul-General of Italy, New York City, Delegate of the Government of Italy.

Federico Mariscal, Academy of Fine Arts, Mexico, D. F., Delegate of the Department of Education and of the Government of Mexico.

Luis Castillo Ledón, Director of the National Museum of Archaeology, History and Ethnography, Mexico, D. F., and Delegate of the Department of Education and of the Government of Mexico.

Mariano de Amoedo, Chargé d'Affaires of Spain, Washington, D. C., and Delegate of the Government of Spain.

Hiram Bingham, United States Senator from Connecticut, and Delegate of the Government of the United States.

Matthew W. Stirling, Chief of the Bureau of American Ethnology and Delegate of the Government of the United States.

EXECUTIVE OFFICERS

President

Franz Boas, Professor of Anthropology, Columbia University; Delegate of Columbia University.

Vice-Presidents

Erland Nordenskiöld, Professor of Ethnology, University of Göteborg, Director of the Division of Ethnography, Göteborg Museum; Delegate of the Government of Sweden.

Thomas A. Joyce, Deputy Keeper, British Museum; Delegate of the British Museum and of the Royal Anthropological Institute.

Albrecht Penck, Professor of the University of Berlin; Delegate of the Government of Germany.

Antonio Carlos Simoens da Silva, Founder of the "Museu Simoens da Silva" of Rio de Janeiro; Delegate of the Government of Brazil.

Aleš Hrdlička, Curator of Physical Anthropology, United States National Museum; Delegate of the United States National Museum.

‡ Stewart Culin, Curator of Ethnology, Brooklyn Museum; Delegate of the Brooklyn Museum.

Treasurer

George G. Heye, Founder and Director of the Museum of the American Indian, New York City, Delegate of the Museum of the American Indian.

General Secretary

N. C. Nelson, Curator of Archaeology, American Museum of Natural History, New York City, Delegate of the American Museum of Natural History.

Secretaries

Lidio Cipriani, Professor of the University of Florence; Delegate of the Italian Society of Anthropology and Ethnology, and of the National Museum of Anthropology and Ethnology of the University of Florence.

José Reygadas Vertiz, Division of Archaeology of the Department of Public Education, Mexico; Delegate of the Government of Mexico and of the Department of Public Education.

Waldemar G. Bogoras, Professor of the University of Leningrad; Curator of the Museum of Anthropology and Ethnography of the Academy of Sciences, Leningrad; Delegate of the Academy of Sciences, Leningrad.

Fernando Marquez Miranda, Professor of the University of La Plata, Argentina, Delegate of the Government of the Argentine Republic.

Council

Wilhelm Koppers, Austria.
Frans M. Olbrechts, Belgium.
C. Marius Barbeau, Canada.
José Toribio Medina, Chile.
Martin Gusinde, Chile.
Fernando Ortiz, Cuba.
William Thalbitzer, Denmark.
Max Uhle, Ecuador.
Louis C. G. Clarke, England.
Walter Lehmann, Germany.
Konrad Theodor Preuss, Germany.
Nicholas S. Kaltchas, Greece.
J. P. B. de Josselin de Jong, Holland.
Zelia Nuttall, Mexico.
Gunnar Isachsen, Norway.
Julio Tello, Peru.
Kazimierz Stolyhwo, Poland.
Hugo Obermaier, Spain.
Abelado Merino Alvarez, Spain.
Frans Blom, United States of America.
Walter Hough, United States of America.
A. V. Kidder, United States of America.
A. L. Kroeber, United States of America.
Edward Sapir, United States of America.
Frank G. Speck, United States of America.
A. M. Tozzer, United States of America.
Clark Wissler, United States of America.
Waldemar Jochelson, U. S. S. R.
I. D. Strelnikov, U. S. S. R.

Publication Committee

Clark Wissler, *Chairman*
Franz Boas
F. W. Hodge
S. K. Lothrop
N. C. Nelson

ORGANIZING COMMITTEE

Honorary Members

Henry Fairfield Osborn, Chairman; President of the American Museum of Natural History, New York City.

---

‡ Deceased.

Frank L. Babbott, Jr., Trustee of the Brooklyn Museum, Brooklyn, N. Y.

Nicholas Murray Butler, President of Columbia University, New York City.

Clarence L. Hay, Member of the Board of Trustees and Research Associate in Mexican and Central American Archaeology of the American Museum of Natural History, New York City.

Archer M. Huntington, President of the Hispanic Society of America.

John C. Merriam, President of the Carnegie Institution of Washington.

Frederic B. Pratt, Member of the Board of Trustees of the Brooklyn Museum, Brooklyn, N. Y.

A. Hamilton Rice, Member of the Board of Trustees of the American Museum of Natural History, New York City.

Frederick K. Seward, Member of the Board of Trustees of the Museum of the American Indian, New York City.

Felix M. Warburg, Member of the Board of Trustees of the American Museum of Natural History, New York City.

‡ John M. Wulfing, Vice-President of the Archaeological Institute of America.

Executive Members

Franz Boas, *Chairman*
George G. Heye, *Treasurer*
‡ Stewart Culin

A. V. Kidder
‡ P. E. Goddard
N. C. Nelson
} *Secretaries*

Members-at-Large

S. A. Barrett
Ruth F. Benedict
Frans Blom
Franz Boas
Isaiah Bowman
Fay-Cooper Cole
John M. Cooper
‡ Stewart Culin
Roland B. Dixon
J. Walter Fewkes
Edward W. Gifford
‡ P. E. Goddard
Carl E. Guthe
A. Irving Hallowell
Clarence L. Hay
Melville J. Herskovits
Edgar L. Hewett
George G. Heye
Frederick W. Hodge
W. H. Holmes
E. A. Hooton
Walter Hough
Aleš Hrdlička
Melville Jacobs
A. E. Jenks
Diamond Jenness
Neil M. Judd
A. V. Kidder
A. L. Kroeber
Berthold Laufer
S. K. Lothrop
Robert H. Lowie
George Grant MacCurdy
Ralph Van Deman Magoffin
J. Alden Mason
T. F. McIlwraith
Truman Michelson
Warren K. Moorehead
S. G. Morley
N. C. Nelson
Bruno Oetteking
Leonard Outhwaite
Arthur C. Parker
Elsie Clews Parsons
James Edwin Pearce
Gladys A. Reichard
Edward Sapir
Marshall H. Saville
Harry L. Shapiro
Harlan I. Smith
Frank G. Speck
Leslie Spier
Herbert J. Spinden
John R. Swanton
Alfred M. Tozzer
Leslie A. White
C. C. Willoughby
Clark Wissler

GOVERNMENT DELEGATES

Argentina	Fernando Marquez Miranda, Professor of the University of La Plata.
Austria	Eugen Oberhummer, Professor of the University of Vienna and President of the Geographical Society of Vienna. Wilhelm Koppers, Professor of the University of Vienna.

---

‡ Deceased.

Belgium	V. Bohet, Professor of the University of Liège.
Bolivia	Arthur Posnansky, of the Instituto Tihuanacu de Antropologia, Etnografia y Prehistoria, La Paz.
Brazil	Antonio Carlos Simoens da Silva, owner of the “Museu Simoens da Silva,” Brazil.
Chile	José Toribio Medina.
Denmark	William Thalbitzer, Professor of the University of Copenhagen.
Ecuador	Max Uhle, Professor of the Central University, Quito.
	Joseph H. Sinclair, Member of the Academy of History, Ecuador.
France	Louis Cazamian, Professor of the University of Paris.
Germany	Albrecht Penck, Professor of the University of Berlin.
Greece	Nicholas S. Kaltchas, Professor of the University of Michigan, Ann Arbor, Mich.
Holland	L. G. van Hoorn, Chargé d'Affaires of Holland, Washington, D. C.
Italy	Emanuelo Grazzi, Consul-General of Italy, New York City.
Mexico	Luis Castillo Ledón, Director of the National Museum of Archaeology, History and Geography, Mexico, D. F.
	Federico Mariscal, of the Academy of Fine Arts, Mexico, D. F.
	José Reygadas Vertiz, of the Division of Archaeology of the Department of Public Education, Mexico, D. F.
Norway	Gunnar Isachsen, Director of the Naval Museum, Oslo.
Panama	Enrique Geenzier, Consul-General of Panama, New York City.
Peru	Julio Tello, Professor of the University of San Marcos, Lima.
Poland	Eugene Jordan-Rozwadowski, Consul-General of Poland, New York City.
Spain	Mariano de Amoedo, Chargé d'Affaires of Spain, Washington.
Sweden	Erland Nordenskiöld, Director of the Division of Ethnography, Göteborg Museum.
United States	Hiram Bingham, Senator from Connecticut.
	A. V. Kidder, Associate, Carnegie Institution of Washington
	Matthew W. Stirling, Chief of the Bureau of American Ethnology, Washington, D. C.
Venezuela	Julio C. Salas, Professor of the University of Caracas.

DELEGATES FROM INSTITUTIONS AND SOCIETIES

Argentina

Instituto de Investigaciones Geográficas, Universidad de Buenos Aires	Felix Outes.
Museo Etnográfico, Universidad de Buenos Aires	Salvador Debenedetti.
Universidad Nacional de la Plata	Fernando Marquez Miranda.

Austria

Geographische Gesellschaft in Wien	Eugen Oberhummer.

Belgium

Société des Américanistes de Belgique	‡ J. S. Harry Hirtzel, Washington Serruys.
Musées Royaux du Cinquantenaire de Bruxelles	Washington Serruys.

Bolivia

Instituto Tihuanacu de Antropología, Etnografía y Prehistoria	Arthur Posnansky.

---

‡ Deceased.

Brazil

Instituto Historico e Geographico Brasileiro	Rüdiger Bilden.
Club de Engenharia	A. C. Simoens da Silva.
Museu Simoens da Silva	
Instituto Historico e Geographico de São Paulo	
Sociedad Brasileira de Agricultura, São Paulo	
Instituto Historico e Geographico Fluminense	
Archivo Nacional, Rio de Janeiro	

Canada

National Museum, Ottawa	C. Marius Barbeau, Diamond Jenness.

Chile

Museo de Etnología y Antropología, Santiago	Martin Gusinde.
Sociedad Chilena de Historia y Geografia	Ernesto Montenegro.
Universidad Católica, Santiago	Martin Gusinde.
Universidad de Chile	José Toribio Medina.

Cuba

Academia de la Historia de Cuba	Fernando Ortiz.

Denmark

Royal Danish Academy of Sciences	William Thalbitzer.
Royal Danish Geographical Institute	William Thalbitzer.
University of Copenhagen	William Thalbitzer.

Ecuador

Academia Nacional de Historia	Joseph Sinclair, Max Uhle.

England

Anglo-Spanish Society	Lilian Elliott.
British Museum	Thomas A. Joyce.
Cambridge University	Louis C. G. Clarke.
Royal Anthropological Institute	Harry G. Beasley, Louis C. G. Clarke, Thomas A. Joyce.

France

Société des Américanistes de Paris	Erland Nordenskiöld.

Germany

Anthropologen Verein, Hildesheim	Rudolf Hauthal.
Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte	K. Th. Preuss.
Roemer-Museum, Hildesheim	Rudolf Hauthal.
Staatliche Museen, Berlin	Walter Lehmann, K. Th. Preuss.

Guatemala

Sociedad de Geografia e Historia de Guatemala	Adrian Recinos, Virgilio Rodriguez Beteta, Delfino Sanchez Latour.

Italy

Museo Nazionale di Antropologia e Etnologia, Firenze	Lidio Cipriani.
Società Italiana di Antropologia e Etnologia, Firenze	Lidio Cipriani.
Touring Club Italiano	G. V. Callegari.

Mexico

Secretaria de Educación Publica	Luis Castillo Ledón, Federico Mariscal, J. Reygadas Vertiz.
Sociedad Cientifica "Antonio Alzate"	Mrs. Zelia Nuttall.

Norway

University of Oslo	Gunnar Isachsen.

Peru

Universidad de San Marcos, Facultad de Filosofia y Letras	Julio Tello.

Poland

Society of Sciences, Warsaw	Kazimierz Stolyhwo.
University of Cracow	Kazimierz Stolyhwo.
University of Warsaw	Kazimierz Stolyhwo.

Spain

Real Academia de la Historia, Madrid	Abelardo Merino Alvarez, Hugo Obermaier.

United States

Academy of Natural Sciences of Philadelphia	H. Newell Wardle.
Alabama Anthropological Society	Peter A. Brannon.
American Academy of Arts and Sciences	Alfred Marston Tozzer.
American Anthropological Association	Marshall H. Saville.
American Ethnological Society	Ruth Fulton Benedict.
American Folk-Lore Society	Elsie Clews Parsons.
American Geographical Society	W. L. G. Joerg, J. K. Wright.
American Museum of Natural History	N. C. Nelson, Clark Wissler.
American Philosophical Society	William K. Gregory.
Anthropological Society of Washington	Neil M. Judd, Truman Michelson.
Archaeological Institute of America	Frederick W. Hodge, Percy Jackson, Willard V. King, Ralph Van Deman Magoffin, Rollin H. Tanner.
Brooklyn Institute of Arts and Sciences, Department of Education	Stansbury Hagar.
Brooklyn Museum	‡ Stewart Culin.
Buffalo Society of Natural Sciences	Herbert J. Spinden, Leslie A. White.
Bureau of American Ethnology	John R. Swanton.
Carnegie Institution of Washington	A. V. Kidder, S. G. Morley, E. H. Morris.
Catholic University of America	John M. Cooper.
Columbia University	Franz Boas, Gladys A. Reichard.
Florida Archaeological Society	Violet White Smith.
Harvard University	Roland Burrage Dixon.
Museum of the American Indian, Heye Foundation	George G. Heye, Frederick W. Hodge, Bruno Oetteking.
National Institute of Social Sciences	Stansbury Hagar.
New York Academy of Sciences	Clarence L. Hay.

---

‡ Deceased.

New York University	Ralph Van Deman Magoffin, Rollin H. Tanner.
Northwestern University	Melville J. Herskovits.
Peabody Museum, Harvard University	Alfred Marston Tozzer.
Phillips Academy	Warren King Moorehead.
Smithsonian Institution	Walter Hough.
Society of Women Geographers	Mrs. Wilson Popenoe.
Tulane University	Frans Blom.
University Museum, Philadelphia	J. Alden Mason.
United States National Museum	Aleš Hrdlička.
University of California	Alfred L. Kroeber.
University of Chicago	Fay-Cooper Cole, Edward Sapir.
University of Illinois	Warren King Moorehead.
University of Michigan	Carl E. Guthe.
University of Oklahoma	Leslie Spier.
University of Pennsylvania	A. Irving Hallowell.
University of Texas	G. C. Engerrand, James Edwin Pearce.
University of Washington	Thelma Adamson, Melville Jacobs.

U. S. S. R.

Academy of Sciences, Leningrad	Waldemar G. Bogoras.
Russian Geographical Society of Leningrad	Waldemar Jochelson.
State Central Museum for Ethnology, Moscow	Waldemar Jochelson.
University of Leningrad	I. D. Strelnikov.

MEMBERS OF THE TWENTY-THIRD INTERNATIONAL CONGRESS OF AMERICANISTS

Academia Nacional de Historia de Ecuador, Quito, Ecuador.
†Academia de la Historia de Cuba, Chacón y Cuba, La Habana, Cuba.
Academy of Natural Sciences of Philadelphia, Philadelphia, Pa.
Academy of Sciences, Leningrad, U. S. S. R.
†Adams, Mrs. Harriet Chalmers, The Marlborough, Washington, D. C.
†Adams, Mr. William A., 2235 N. 75th Avenue, Elmwood Park, Ill.
Adamson, Miss Thelma, Department of Anthropology, Columbia University, New York City.
†Aitchison, Mr. Clyde B., 1929 S Street, Washington, D. C.
Alabama Anthropological Society, Montgomery, Ala.
*Allison, Mr. Vernon C., Combustion Utilities Corporation, Linden, N. J.
Allyn, Prof. Harriett M., Vassar College, Poughkeepsie, N. Y.
*Altamira, Prof. Rafael, University of Madrid, Madrid, Spain.
American Academy of Arts and Sciences, 28 Newbury Street, Boston, Mass.
American Anthropological Association, University of California, Berkeley, Cal.
American Ethnological Society, American Museum of Natural History, New York City.
American Folk-Lore Society, Columbia University, New York City.
†American Geographical Society, Broadway at 156th Street, New York City.
American Museum of Natural History, New York City.
American Philosophical Society, 104 South 5th Street, Philadelphia, Pa.
Amoedo, Mr. Mariano de, Chargé d'Affaires of Spain, Washington, D. C.
Anderson, Mr. George N., 243 S. First E., Brigham City, Utah.
†Andrade, Mr. Manuel J., DeWitt Clinton High School, 500 West 59th Street, New York City.
†*Andreev, Prof. M. S., University of Tashkent, Tashkent, Turkestan, U. S. S. R.
†Andres, Prof. Friedrich, Universität, Bonn, Germany.
Anglo-Spanish Society, 5 Cavendish Square, London, W. 1, England.
†Anthropologen Verein, Hildesheim, Germany.
Anthropological Society of Washington, Washington, D. C.
†Aparicio, Prof. Francisco de, Facultad de Ciencias de la Educación, Parana, Argentina.
Archaeological Institute of America, New York University, University Heights, New York City.
Archivo Nacional, Rio de Janeiro, Brazil.
†Arias, Mr. Victor J., Alvarado 731, Salta, Argentina.
Armer, Mrs. Laura Adams, 1329 Arch Street, Berkeley, Cal.
†Arnold, Mr. Benjamin Walworth, 465 State Street, Albany, N. Y.
†Ashley, Miss Margaret E., 522 Boulevard Place, Atlanta, Ga.
†*Assis, Dr. A. de, Instituto Vital Brazil, Caixa 28, Niteroi, Brazil.

†*Babbott, Dr. Frank L., Jr., 232 Clinton Avenue, Brooklyn, N. Y.
Barbeau, Dr. C. Marius, National Museum, Ottawa, Canada.
†Barrett, Dr. S. A., Public Museum, Milwaukee, Wis.
Basauri, Mr. Carlos, Secretaria de Educación Publica, Mexico, D. F.
Bass, Mr. George Warrington, 55 Charles Street, New York City.
Bean, Mr. Orestes U., Room 1608, 170 Broadway, New York City.
Beasley, Mr. Harry G., Haddon Lodge, Shooters Hill, London, S. E. 18, England.
*Beasley, Mrs. Harry G., Haddon Lodge, Shooters Hill, London, S. E. 18, England.
Beckwith, Prof. Martha W., Vassar College, Poughkeepsie, N. Y.
Benedict, Dr. Ruth Fulton, Columbia University, New York City.
Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte, Berlin S. W. 11, Königgrätzerstr. 120, Germany.
Beyer, Prof. Hermann, Tulane University, New Orleans, La.

---

*Associate member. †Not in attendance. ‡Deceased.

†Biblioteca de la Universidad N. de Tucumán, Casilla 76, Tucumán, Argentina.
†Biblioteca Universitaria di Padova, Padova, Italy.
†Bibliothèque de l'Université Libre, 14, rue des Sols, Bruxelles, Belgium.
†Bibliothèque Publique et Universitaire de Genève, Genève, Switzerland.
†Bibliothèque Royale de Belgique, 5, rue du Musée, Bruxelles, Belgium.
Bilden, Mr. Rüdiger, 350 West 12th Street, New York City.
*Bilden, Mrs. Rüdiger, 350 West 12th Street, New York City.
†Bing, Dr. Gertrud, Kulturwissenschaftliche Bibliothek Warburg, Heilwigstrasse 114–116, Hamburg, Germany.
Bingham, Hon. Hiram, 787 Prospect Street, New Haven, Conn.
Birket-Smith, Dr. Kaj, 156 Gothersgade, Copenhagen, Denmark.
Blom, Mr. Frans, Tulane University, New Orleans, La.
†Bloomfield, Prof. Leonard, University of Chicago, Chicago, Ill.
†Blosser, Mr. John De W., Chillicothe, Ohio.
Blum, Mr. Edward C., Institute of Arts and Sciences, Brooklyn, N. Y.
Boas, Prof. Franz, Columbia University, New York City.
‡*Boas, Marie, (Mrs. Franz), 230 Franklin Avenue, Grantwood, N. J.
Bogoras, Prof. Waldemar G., Museum of Anthropology and Ethnography, Academy of Sciences, Leningrad, U. S. S. R.
†Bohet, Prof. V., University of Liège, Liège, Belgium.
Boland, Mr. Francis H., 2544 Baker Street, San Francisco, Cal.
†Bosano Ansaldo, Dr. Bernardo Francisco de, Avenida Callao 496, Buenos Aires, Argentina.
†Boston Public Library, Copley Square, Boston, Mass.
*Bowles, Mr. Gordon T., Department of Anthropology, Harvard University, Cambridge, Mass.
Bowman, Dr. Isaiah, American Geographical Society, Broadway at 156th Street, New York City.
Brannon, Mr. Peter A., Alabama Department of Archives and History, Montgomery, Ala.
Briggs, Prof. George W., Drew University, Madison, N. J.
Brigham, Mr. Edward M., Museum of Natural History, Battle Creek, Mich.
British Museum, London, England.
Brooklyn Institute of Arts and Sciences, Department of Education, Brooklyn, N. Y.
Brooklyn Museum, Brooklyn, N. Y.
†Brown, Dr. J. Macmillan, University of New Zealand, Christchurch, New Zealand.
Buffalo Society of Natural Sciences, Humbolt Park, Buffalo, N. Y.
Bunzel, Dr. Ruth L., Department of Anthropology, Columbia University, New York City.
Bureau of American Ethnology, Washington, D. C.
†Bursík and Kohout, Václavské nám. 24, Prague, II, Czecho-Slovakia.
†Burton, Mr. C. Edgar, 82 Beaver Street, New York City.
Bush, Prof. W. T., Columbia University, New York City.
Butler, Prof. Nicholas Murray, Columbia University, New York City.

Callegari, Prof. G. V., Via Campofiore 3, Verona, Italy.
Cambridge University, Cambridge, England.
Carnegie Institution, Washington, D. C.
Carr, Mr. Paul R., 3923 Packard Street, Long Island City, N. Y.
*Casanova, Prof. Pelayo, Universidad de la Habana, La Habana, Cuba.
†Casey, Miss Sophie Pearce, The Oakland, Washington, D. C.
†Caso, Dr. Alfonso, Soto 123, Mexico, D. F.
Catholic University of America, Washington, D. C.
†Cazamian, Prof. Louis, Université de Paris, Paris, France.
Cipriani, Prof. Lidio, R. Università di Firenze, Firenze, Italy.
†Claine, Mr. Jules, Rue de Rennes (VI), Paris, France.
Clarke, Mr. Louis C. G., Archaeological and Ethnographical Museum, Cambridge, England.

---

*Associate member. †Not in attendance. ‡Deceased.

Club de Engenharia, Avenida Rio Branco e Sete de Setembro, Rio de Janeiro, Brazil.
Cole, Prof. Fay-Cooper, University of Chicago, Chicago, Ill.
†Colorado College Library, Colorado Springs, Colo.
Columbia University, New York City.
†Columbia University Library, New York City.
Cooper, Rev. Dr. John M., Catholic University of America, Washington, D. C.
†Cornejo, Dr. Atilio, Córdoba 54, Salta, Argentina.
†Cornyn, Prof. John Hubert, Merced Gomez 4, Mixcoac, D. F., Mexico.
†Cosculluela, Prof. J. A., Universidad de la Habana, La Habana, Cuba.
†Crawford, Mr. M. D. C., Fairchild Publications, 8 East 13th Street, New York City.
†Crittenden, Mr. Walter F., 305 Broadway, New York City.
‡Culin, Mr. Stewart, Brooklyn Museum, Brooklyn, N. Y.
*Culin, Mrs. Stewart, 296 Sterling Place, Brooklyn, N. Y.
†Cummings, Prof. Byron, University of Arizona, Tucson, Ariz.

Danzel, Prof. Theodor-Wilhelm, Universität, Hamburg, Germany.
*Danzel, Hedwig (Mrs. Theodor Wilhelm), Willistr. 22, Hamburg, Germany.
†Davenport Public Museum, Davenport, Iowa.
Davidson, Dr. D. S., 94 Hicks Street, Brooklyn, N. Y.
†Debenedetti, Dr. Salvador, Museo Etnografico, Universidad de Buenos Aires, Buenos Aires, Argentina.
†Deglatigny, Dr. Louis, 29 rue Blaise Pascal, Rouen, France.
†*Densmore, Miss Frances, Red Wing, Minn.
†Detroit Public Library, Woodward and Kirby Avenues, Detroit, Mich.
Deuel, Mr. Thorne, Department of Anthropology, University of Syracuse, Syracuse, N. Y.
Dieseldorff, Mr. Erwin P., Coban, Guatemala.
*Dirección de Arqueologia, Secretaría de Educación Publica, Mexico, D. F.
†Direccion General de Minas, Geologia e Hidrologia, Buenos Aires, Argentina.
Dixon, Prof. Roland B., Peabody Museum, Cambridge, Mass.
†Doello-Jurado, Prof. Martín, Museo Nacional de Historia Natural, Buenos Aires, Argentina.
Dorsey, Dr. George A., 35 West 9th Street, New York City.
†Durlach, Dr. Theresa Mayer (Mrs. M. I), 875 Park Avenue, New York City.
Duyvis, Miss Guda E. G., Hoogstraat 14, Koog aan de Zaan, Holland.

†Eaton, Dr. George F., 70 Sachem Street, New Haven, Conn.
Ehrich, Mr. Robert W., 35 East 9th Street, New York City.
†Ehrlich, Mrs. Clara H., 3987 Carolin Street, Sunnyside, L. I.
Elliott, Miss Lilian E., Anglo-Spanish Society, 5 Cavendish Square, London W. 1, England.
†El Paso Public Library, El Paso, Texas.
*Emerson, Mr. Raymond, Concord, Mass.
*Emerson, Mrs. Raymond, Concord, Mass.
†Emmons, Lieut. George T., Princeton, N. J.
†Engerrand, Prof. G. C., University of Texas, Austin, Texas.
†Eriksson, Dr. J. V., Hydrografiska Byran, Stockholm 8, Sweden.
†Erwin, Mr. Henry P., 723 15th Street, N.W., Washington, D. C.
Estabrook, Mrs. H. K., 92 Reservoir Avenue, Chestnut Hill, Mass.
†Etnografisk Museum, Oslo, Norway.
†Evans, Mr. S. C., 675 8th Street, Riverside, Cal.

†Faculdade de Medecina da Bahia, Bahia, Brazil.
†Falk-Fabian, Mr. Th., 74, Rue d'Irlande, Bruxelles, Belgium.
†Fewkes, Dr. J. Walter, Bureau of American Ethnology, Washington, D. C.
Fletcher, Mr. Harry G., 90 Holland Street, West Somerville, Mass.
Florida Archaeological Society, Tampa, Fla.

---

*Associate member. †Not in attendance. ‡Deceased.

†*Follin, The Hon. Maynard D., P. O. Box 118, Detroit, Mich.
†Fox, Mr. George R., Three Oaks, Mich.
†Fraser, Mr. George C., 20 Exchange Place, New York City.
†Freeland, Miss Lucy S., 2851 Buena Vista Way, Berkeley, Cal.

†Gann, Dr. Thomas, Belize, British Honduras.
†Gardner, Mr. G. A., 194 Calle Callao, Buenos Aires, Argentina.
†Garza-Leal, Mr. L., 251, Longue rue d'Argile, Antwerp, Belgium.
Gates, Prof. R. Ruggles, University of London, London, England.
†Geenzier, Mr. Enrique, Consul-General of Panama, 1 Park Place, New York City.
†Geographische Gesellschaft in Wien, Wien, Austria.
†Gifford, Mr. Edward W., Museum of Anthropology, San Francisco, Cal.
†Gilmore, Dr. Melvin R., University of Michigan, Ann Arbor, Mich.
†Goddard, Mr. Charles F., 135 Chestnut Street, Flushing, N. Y.
‡Goddard, Dr. P. E., American Museum of Natural History, New York City.
†Goeje, Mr. C. H. de, van Weede van Dyhveld straat 101, The Hague, Holland.
†Goldfrank, Mrs. Esther S., 16 Vermont Avenue, White Plains, N. Y.
Göteborgs Museum, Göteborg, Sweden.
†Grand Rapids Public Library, Grand Rapids, Mich.
†Grandidier, Mr. G., Société de Géographie, 10, Avenue d'Iena, Paris (VIII), France.
†Grant, Prof. J. C. Boileau, Medical College, Winnipeg, Canada.
Grazzi, Mr. Emanuele, Italian Consulate, 20 East 22nd Street, New York City.
Gregory, Prof. William K., American Museum of Natural History, New York City.
†Greslebin, Mr. Hector, Museo Nacional de Historia Natural, Buenos Aires, Argentina.
†Griffith, Dr. W. M., 113 1-2 Main Street, Salt Lake City, Utah.
†Grinnell, Dr. George Bird, 238 East 15th Street, New York City.
*Guernsey, Mr. S. J., Peabody Museum, Cambridge, Mass.
Gusinde, Prof. Martin, Mödling-St. Gabriel, bei Wien, Austria.
Guthe, Dr. Carl E., University of Michigan, Ann Arbor, Mich.

Hagar, Mr. Stansbury, Department of Education, Institute of Arts and Sciences, Brooklyn, New York.
†*Hague, Miss Eleanor, 640 Hillside Terrace, Pasadena, Cal.
Haile, Rev. Berard, Catholic University of America, Washington, D. C.
Hallowell, Dr. A. Irving, University of Pennsylvania, Philadelphia, Pa.
†Hamburger Staats- und Universitäts-Bibliothek, Hamburg, Germany.
*Hartman, Mr. Carroll S., 46 North Los Robles Avenue, Pasadena, Cal.
Harvard University, Cambridge, Mass.
†Hauthal, Prof. Rudolf, Roemer-Museum, Hildesheim, Germany.
Hay, Mr. Clarence L., American Museum of Natural History, New York City.
†Haynes, Mr. W. de F., 49 Park Avenue, New York City.
†Heger, Dr. Franz, Rasumofskygasse 1, Wien III, Austria.
Hellman, Dr. Milo, 57 West 57th Street, New York City.
Herskovits, Dr. Melville J., Northwestern University, Evanston, Ill.
*Herskovits, Mrs. Melville J., Evanston, Ill.
Herzog, Dr. George, Department of Anthropology, Columbia University, New York City.
†Hewett, Dr. Edgar L., School of American Research, Santa Fé, N. M.
Heye, Mr. George G., Museum of the American Indian, Heye Foundation, New York City.
Hildburgh, Dr. W. L., 8, Thorney Court, Hyde Park Gate, London, W. 8, England.
‡†Hirtzel, Prof. J. S. Harry, 47, Rue des Eburons, Bruxelles, Belgium.
Hodge, Mr. Frederick W., Museum of the American Indian, Heye Foundation, New York City.
*Hoffman, Dr. Frederick L., Prudential Insurance Company, Newark, N. J.
†Holland, Dr. W. J., Director Emeritus, Carnegie Museum, Pittsburgh, Pa.
†Holmes, Dr. W. H., National Gallery of Art, Washington, D. C.

---

*Associate member. †Not in attendance. ‡Deceased.

HOORN, MR. L. G. VAN, Chargé d'Affaires of Holland, Washington, D. C.
†HOOTON, DR. EARNEST A., Peabody Museum, Cambridge, Mass.
HOUGH, DR. WALTER, United States National Museum, Washington, D. C.
†HOWARD MEMORIAL LIBRARY, New Orleans, La.
HRDLIČKA, DR. ALEŠ, United States National Museum, Washington, D. C.
†HUCKEL, MR. J. F., Fred Harvey, Union Station, Kansas City, Mo.
HUNTER, MR. ROLAND JACKSON, 49 West 84th Street, New York City.
HUNTINGTON, MR. ARCHER M., 1 East 89th Street, New York City.

†IMBELLONI, PROF. J., Universidad Nacional del Litoral, Paraná, Argentina.
†INDIANA STATE LIBRARY, Indianapolis, Ind.
†INSTITÜT FÜR AMERIKAFORSCHUNG, Universität, Wurzburg, Germany.
†INSTITUTO DE INVESTIGACIONES GEOGRAFICAS, Universidad de Buenos Aires, Buenos Aires, Argentina.
INSTITUTO HISTORICO E GEOGRAPHICO DE SÃO PAULO, 40 Rua Benjamin Constant, São Paulo, Brazil.
INSTITUTO HISTORICO E GEOGRAPHICO BRASILEIRO, Rio de Janeiro, Brazil.
INSTITUTO HISTORICO E GEOGRAPHICO FLUMINENSE, Niterio, Brazil.
†INSTITUTO DE HYGIENE, Caixa Postal 1985, São Paulo, Brazil.
†INSTITUTO TIHUANACU DE ANTHROPOLOGÍA, ETNOGRAFÍA Y PREHISTORIA, La Paz, Bolivia.
ISACHSEN, MAJOR GUNNAR, Naval Museum, Oslo, Norway.

†JACKSON, MR. PERCY, 43 Cedar Street, New York City.
JACOBS, DR. MELVILLE, University of Washington, Seattle, Wash.
†JAMES JEROME HILL REFERENCE LIBRARY, St. Paul, Minn.
†JAXON, MAJOR HONORÉ J., Room 1506, 475 Fifth Avenue, New York City.
†JENKS, PROF. ALBERT ERNEST, University of Minnesota, Minneapolis, Minn.
JENNESS, MR. D., National Museum, Ottawa, Canada.
JOCHELSON, DR. WALDEMAR, American Museum of Natural History, New York City.
†JOERG, MR. W. L. G., American Geographical Society, Broadway at 156th Street, New York City.
JOHNSON, MR. FREDERICK, 42 Liberty Street, Everett, Mass.
†JORDAN-ROZWADOWSKI, MR. EUGENE, Polish Consulate, 953 Third Avenue, New York City.
JOSEPH, DR. SAMUEL, 22 West 96th Street, New York City.
JOSSELIN DE JONG, PROF. J. P. B. DE, University of Leiden, Leiden, Holland.
JOYCE, MR. T. A., British Museum, London, England.
JUDD, MR. NEIL M., United States National Museum, Washington, D. C.

KAHN, MISS H. D., 117 West 197th St., New York City.
KAHN, DR. MORTON C., Cornell Medical College, New York City.
KALTCHAS, PROF. NICHOLAS S., University of Michigan, Ann Arbor, Mich.
*KEUR, DOROTHY L. (MRS. JOHN Y.), 5616 Delafield Avenue, New York City.
KIDDER, DR. A. V., Carnegie Institution, Washington, D. C.
†*KIDDER, MR. H. H., Bankers Trust Company, 5 Place Vendôme, Paris, France.
†KING, DR. WILLARD V., 60 Broadway, New York City.
†KISSENBERTH, DR. WILHELM, Staatliche Museen, Berlin, Germany.
KNOX, MISS LUCY PERRY, Care of Harry Knox Company, Brownwood, Texas.
†KOBER, DR. GEORGE MARTIN, Medical School, Georgetown University, Washington, D. C.
†KOLONIAAL INSTITUUT LIBRARY, Mauritskade 62, Amsterdam, Holland.
KOPPERS, PROF. WILHELM, St. Gabriel-Mödling, bei Wien, Austria.
KROEBER, PROF. A. L., University of California, Berkeley, Cal.
KROGMAN, MR. WILTON MARION, 229 S. Kenilworth Avenue, Oak Park, Ill.
†KULTURWISSENSCHAFTLICHE BIBLIOTHEK WARBURG, Heilwigstrasse 114–116, Hamburg, Germany.
KUNZ, DR. GEORGE F., 405 Fifth Avenue, New York City.

---

*Associate member. †Not in attendance. ‡Deceased.

La Farge, Mr. Oliver, 145 East 35th St., New York City.
†Langlois, Col. Louis Pierre, 100 Boulevard Pereire, Paris, France.
†Larco, Mr. Rafael, Trujillo, Peru.
†Laufer, Dr. Berthold, Field Museum of Natural History, Chicago, Ill.
†Leach, Mr. Charles F., Monticello, Fla.
†*Leão, Mr. Ermelino Agostinho de, Antonina, Paraná, Brazil.
Ledón, Mr. Luis Castillo, Museo Nacional de Arqueologia, Historia y Etnografia, Mexico, D. F.
†Lee, Mr. B. T., Calle Sanchez Carrion, B. Barranco, Lima, Peru.
*Lehmann, Hedwig (Mrs. Rudolf), 230 Franklin Avenue, Grantwood, N. J.
Lehmann, Prof. Walter, Museum für Völkerkunde, Berlin, Germany.
*Lesser, Mr. Alexander, 504 West 111th Street, New York City.
†Library Association of Portland, Portland, Oregon.
†Library of the Geological Survey, Department of Mines, Ottawa, Canada.
†Library of the Royal Swedish Academy of Sciences, Stockholm 50, Sweden.
Lindsey, Mr. Edward, Warren, Pa.
†Lisboa, Mr. Alfred, 496 Barata Ribeiro, Rio de Janeiro, Brazil.
Loeb, Mrs. Margery L., American Museum of Natural History, New York City.
†Long, Mr. Richard C. E., Portarlington, Ireland.
Lothrop, Dr. S. K., Museum of the American Indian, Heye Foundation, New York City.
†Lowie, Prof. Robert H., University of California, Berkeley, Cal.

†MacCurdy, Dr. George Grant, Peabody Museum, New Haven, Conn.
MacLeod, Dr. W. C., University of Pennsylvania, Philadelphia, Pa.
Magoffin, Prof. R. V. D., New York University, University Heights, New York City.
†Maisonneuve, Mr. Adrien, 5 Rue de Tournon, Paris VI, France.
Mariscal, Mr. Federico, Academia de Bellas Artes, Mexico, D. F.
Marker, Dr. J. P. H., P. O. Box 121, Times Plaza Station, Brooklyn, N. Y.
Marquez Miranda, Prof. Fernando, Universidad Nacional de la Plata, La Plata, Argentina.
†Marquina, Mr. Ignacio, 16 de Septiembre, 5, Mexico, D. F.
Martinez Hernandez, Mr. Juan, Calle 25 núm. 500, Merida, Yucatan, Mexico.
Mason, Dr. J. Alden, Museum of the University of Pennsylvania, Philadelphia, Pa.
Mathiassen, Dr. Therkel, National Museum, Copenhagen, Denmark.
†Maudslay, Mr. Alfred P., Morney Cross, Hereford, England.
†Mayntzhusen, Mr. Federico C., Colonia Mayntzhusen (A. P.), Paraguay.
McDougall, Miss Elsie, Woodstock, New York.
McGovern, Dr. William M., Northwestern University, Evanston, Ill.
†McIlwraith, Prof. T. F., University of Toronto, Toronto, Canada.
McWilliams, Mr. Stewart A., American Museum of Natural History, New York City.
†Means, Mr. Carroll Alton, Care of Messrs. Hottinguer et Cie., 38 Rue de Provence, Paris, France.
†Means, Mr. Philip Ainsworth, 249 Park Street, New Haven, Conn.
Medina, Dr. José Toribio, Doce de Febrero, 49, Santiago, Chile.
Medina, Mercedes Y. de (Mrs. José Toribio), Doce de Febrero, 49, Santiago, Chile.
†Mendes-Corrêa, Prof. A. A., Universidade do Porto, Porto, Portugal.
Mendizábal, Mr. Miguel O., Museo Nacional de Arqueologia, Historia y Etnografia, Mexico, D. F.
†Mera, Dr. H. P., Santa Fé, N. M.
Merino Alvarez, Dr. Abelardo, Real Academia de la Historia, Madrid, Spain.
*Merino, Guadalupe de Vega de (Mrs. Abelardo), Madrid, Spain.
†Merriam, Dr. C. Hart, 1919 16th Street, Washington, D. C.
†Merriam, Dr. John C., Carnegie Institution, Washington, D. C.
†Mestre, Prof. Aristides, Universidad de la Habana, Habana, Cuba.
†Metropolitan Library, Peking, China.

---

*Associate member. †Not in attendance. ‡Deceased.

†Michelsen, Dr. Gustavo, ''El Arbolito'', Fusagasuga, Colombia.
*Michelsohn, Marie Franziska (Mrs. Nicolai), 230 Franklin Avenue, Grantwood, N. J.
Michelson, Dr. Truman, Smithsonian Institution, Washington, D. C.
*Miner, Dr. Roy W., American Museum of Natural History, New York City.
*Miner, Mrs. Roy W., 120 West 70th Street, New York City.
Montenegro, Mr. Ernesto, Sociedad Chilena de Historia y Geografia, Santiago, Chile.
†Moore, Mr. Clarence B., 1321 Locust Street, Philadelphia, Pa.
†Moore, Dr. Riley D., Suite 919, Southern Building, Washington, D. C.
Moorehead, Dr. Warren King, Phillips Academy, Andover, Mass.
Morley, Dr. Sylvanus Griswold, Carnegie Institution, Washington, D. C.
†Morris, Mr. Earl H., Carnegie Institution, Washington, D. C.
Morton, Dr. Rosalie Slaughter, 1049 Park Avenue, New York City.
†*Moyle, Mr. James H., Continental Bank Building, Salt Lake City, Utah.
†Musées Royaux du Cinquantenaire de Bruxelles, Bruxelles, Belgium.
†*Museo de La Plata, La Plata, Argentina.
Museo de Etnología y Antropología, Santiago, Chile.
Museo Etnografico de la Facultad de Filosofia y Letras, Moreno 350, Buenos Aires, Argentina.
Museo Nacional de Historia Natural de Buenos Aires, Casilla de Correa 470, Buenos Aires, Argentina.
Museo Nazionale d'Antropologia, R. Università di Firenze, Firenze, Italy.
†Museum für Völkerkunde, Hamburg, Germany.
†Museum für Völkerkunde, Burgring 7, Wien I, Austria.
Museum of the American Indian, Heye Foundation, Broadway at 155th Street, New York City.

National Institute of Social Sciences, 280 Madison Avenue, New York City.
†National Museum, Ethnographic Department, Copenhagen, Denmark.
National Museum, Ottawa, Canada.
*Neilson, Mr. Ernest A., American Museum of Natural History, New York City.
*Nelson, E. G. (Mrs. N. C.), American Museum of Natural History, New York City.
Nelson, Mr. N. C., American Museum of Natural History, New York City.
†Neumann, Mr. George Karl, 737 North Latrobe Avenue, Chicago, Ill.
†Newark Free Public Library, Newark, N. J.
†Newcombe, Mr. William A., 138 Dallas Road, Victoria, B. C., Canada.
New York Academy of Sciences, American Museum of Natural History, New York City.
†New York Public Library, Fifth Avenue, New York City.
New York University, University Heights, New York City.
Nicholson, Miss Grace, 46 North Los Robles Avenue, Pasadena, Cal.
*Noguera, Mr. Eduardo, Dirección de Arqueología, Secretaría de Educación, Mexico, D. F.
Nordenskiöld, Baron Erland, Göteborgs Museum, Göteborg, Sweden.
Nordenskiöld, Baroness Erland, Göteborg, Sweden.
Northwestern University, Evanston, Ill.
Nuttall, Mrs. Zelia, Casa Alvarado, Coyoacan D. F., Mexico.

†Oberhummer, Prof. Eugen, University of Vienna, Vienna, Austria.
Obermaier, Prof. Hugo, Universidad Central de España, Madrid, Spain
Oetteking, Dr. Bruno, Museum of the American Indian, Heye Foundation, New York City.
Olbrechts, Dr. Frans M., Kessel-Loo, Brab., Belgium.
*Olbrechts, Mrs. Frans M., Kessel-Loo, Brab., Belgium.
†Ordoñez, Mr. Ezequiel, Pan American Petroleum and Transport Company, 120 Broadway, New York City.
†Oregon State Library, Salem, Oregon.
†Ortiz, Dr. Fernando, Academia de la Historia de Cuba, Havana, Cuba.
Osborn, Prof. Henry Fairfield, American Museum of Natural History, New York City.

---

*Associate member. †Not in attendance. ‡Deceased.

Osborn, Mrs. Henry Fairfield, 998 Fifth Avenue, New York City.
†Outes, Dr. Felix F., Universidad de Buenos Aires, Buenos Aires, Argentina.
†Outhwaite, Mr. Leonard, 61 Broadway, New York City.

Palacios, Mr. Enrique Juan, Anáhuac 5, Mexico, D. F.
†Palavecino, Mr. Enrique, Museo Nacional, Buenos Aires, Argentina.
†Pan American Petroleum and Transport Company, 120 Broadway, New York City.
†Panhuys, Jonkheer, L. C. van, Doelen House, Gorinchem, Holland.
†*Parker, Mr. Arthur C., Municipal Museum, Rochester, N. Y.
Parker and Son, Ltd., 27 Broad Street, Oxford, England.
Parsons, Dr. Elsie Clews, Harrison, N. Y.
Pascal, Miss Pauline, 55 Charles Street, New York City.
†Pavlow, Prof. Alexander W., Bakmetjevskaja 15, no. 9, Moscow, U. S. S. R.
Peabody Museum of Harvard University, Cambridge, Mass.
†Pearce, Prof. James Edwin, University of Texas, Austin, Tex.
Penck, Prof. Albrecht, University, Berlin, Germany.
Penck, Mrs. Walther, Berlin, Germany.
*Petrullo, Mr. Vincent M., University of Pennsylvania, Philadelphia, Pa.
†*Phelps, Miss Eleanor M., 176 Sullivan Street, New York City.
†Philhower,, Mr. Charles A., 303 Mountain Avenue, Westfield, N. J.
Phillips Academy, Andover, Mass.
*Pindar, Mr. George N., American Museum of Natural History, New York City.
†Pires Brandâo, Dr. Paulo José, Rua Corrêa Dutra 69, Rio de Janeiro, Brazil.
†Popenoe, Mr. Wilson, United Fruit Company, Tela, Honduras.
Popenoe, Dorothy (Mrs. Wilson), Tela, Honduras.
†Posnansky, Prof. Arthur, Instituto "Tihuanacu" de Antropologia, Etnografia y Prehistoria, La Paz, Bolivia.
Powdermaker, Miss Hortense, 2523 Liberty Heights Avenue, Baltimore, Md.
Preuss, Prof. K. Th., Museum für Völkerkunde, Berlin, Germany.
Pratt, Mr. Frederic B., 229 Clinton Street, Brooklyn, N. Y.
†Provincial Library, Victoria, B. C.
†Public Library, Denver, Colo.
†Public Library, Los Angeles, Cal.
Putnam, Mr. Edward K., Davenport Public Museum, Davenport, Iowa.
†*Putnam, Mr. William A., 70 Willow Street, Brooklyn, N. Y.

†Radin, Dr. Paul, Fisk University, Nashville, Tenn.
†Ravignani, Dr. Emilio, Universidad de Buenos Aires, Buenos Aires, Argentina.
†*Reagan, Mr. Albert B., Ouray, Utah.
Real Academia de la Historia, Calle de Leon 21, Madrid, Spain.
Recinos, Dr. Adrian, Minister of Guatemala, 631 Southern Building, Washington, D. C.
†Reeder, Mr. J. T., 318 College Avenue, Houghton, Mich.
Reichard, Dr. Gladys A., Barnard College, Columbia University, New York City.
Reygadas Vertiz, Mr. José, Direccion de Arqueologia, Secretaria de Educación Publica, Mexico, D. F.
Rice, Dr. A. Hamilton, 901 Fifth Avenue, New York City.
†Rickards, Mr. Constantine G., Avenida Madero 2, Mexico, D. F.
Ricketson, Mr. Oliver G., 18 Scott Street, Cambridge, Mass.
*Ricketson, Mrs. Oliver G., 18 Scott Street, Cambridge, Mass.
†Rijks Ethnographisch Museum, Rapenburg 67, Leiden, Holland.
*Ritt, Mrs. J. F., Care of Prof. J. F. Ritt, Columbia University, New York City.
†Rivet, Prof. Paul, Société des Américanistes de Paris, 61 rue de Buffon, Paris, France.
Roberts, Dr. Frank H. H., Jr., Bureau of American Ethnology, Washington, D. C.
†Roberts, Miss Helen H., Kent Hall, Yale University, New Haven, Conn.
Rodriguez Beteta, Mr. Virgilio, Congress Hotel, 19 West 69th Street, New York City.

---

*Associate member. †Not in attendance. ‡Deceased.

†Rodriguez Lopez, M. Rafael, P. O. Box 123, Caracas, Venezuela.
†Roemer-Museum, Hildesheim, Germany.
†*Romero, Col. Antonio A., Entre-Rios 1968, Argentina.
†Roquette-Pinto, Prof. E., Museu Nacional, Rio de Janeiro, Brazil.
†*Rosen, Count Eric von, Rockelstad, Sparreholm, Sweden.
Royal Anthropological Institute, 52 Upper Bedford Place, London W. C. 1, England.
Royal Danish Academy of Sciences, Copenhagen, Denmark.
Royal Danish Geographical Institute, Copenhagen, Denmark.
Ruckman, Miss Marjorie C., 18 Gramercy Park South, New York City.
Russian Geographical Society, Leningrad, U. S. S. R.

Salas, Dr. Julio C., Este 4 No. 122, Caracas, Venezuela.
Salomon, Mr. Julian Harris, 24 Gesner Avenue, Nyack, N. Y.
Salto, Capt. A. B., New Weston Hotel, Madison Avenue and 50th Street, New York City.
*Salto, Mrs. A. B., New Weston Hotel, Madison Avenue and 50th Street, New York City.
†Sanchez Latour, Mr. Delfino, Sociedad de Geografia e Historia, Guatemala.
Sapir, Prof. Edward, University of Chicago, Chicago, Ill.
†Sapper, Mr. D. E., Guatemala, C. A.
†Sapper, Prof. Karl, University, Würzburg, Germany.
Saville, Prof. Marshall H., Museum of the American Indian, Heye Foundation, New York City.
*Sawtell, Miss Ruth Otis, Bureau of Educational Experiments, 144 West 13th Street, New York City.
†Schively, Dr. Mary Alice, 339 Washington Avenue, Santa Fe, N. M.
Schwartz, Mr. Herbert F., American Museum of Natural History, New York City.
*Scott, Mrs. Alexander, New Weston Hotel, 34 East 50th Street, New York City.
Scott, Mr. Donald, Lloyd Neck, Huntington, N. Y.
†Sergi, Prof. Giuseppe, 26, via Collegio romano, Roma, Italy.
*Serpell, Miss Alethea, 902 Westover Avenue, Norfolk, Va.
†Serrano y Sanz, Dr. Manuel, Universidad de Zaragoza, Zaragoza, Spain.
†Serruys, Mr. Washington, 22 Avenue Michel Ange, Bruxelles, Belgium.
†Seward, Mr. Frederick K., 30 Broadway, New York City.
*Shapiro, Dr. H. L., American Museum of Natural History, New York City.
Sherwood, Dr. George H., American Museum of Natural History, New York City.
Simoens da Silva, Dr. Antonio Carlos, 111 Rua Visconde de Silva, Rio de Janeiro, Brazil.
Sinclair, Mr. Joseph H., 59 Wall Street, New York City.
*Sinclair, Mrs. Joseph H., 59 Wall Street, New York City.
†Smith, Mr. Harlan I., National Museum, Ottawa, Canada.
†Smith, Mrs. Joseph Lindon, 132 East 72nd Street, New York City.
Smith, Mrs. Violet White, 609 East North Street, Tampa, Fla.
Smithsonian Institution, Washington, D. C.
*Smutny, Mrs. J., 110 Morningside Drive, New York City.
†Sociedad Argentina de Ciencias Naturales, Perú 294, Buenos Aires, Argentina.
Sociedad Chilena de Historia y Geografia, Santiaga, Chile.
Sociedad Cientifica "Antonio Alzate," Volador 13–16, Mexico, D. F.
Sociedad de Geografia e Historia, Guatemala, C. A.
†Sociedad Geografica de Lima, Lima, Peru.
Sociedade Brasileira de Agricultura, São Paulo, Brazil.
Società Italiana di Antropologia e Etnologia, 12 via del Proconsolo, Firenze, Italy.
†Société des Américanistes de Belgique, Rue des Eburons, 47, Bruxelles, Belgium.
Société des Américanistes de Paris, 61 Rue de Buffon, Paris (V), France.
†Society of Sciences, Warsaw, Poland.
Society of Women Geographers, The Marlborough, Washington, D. C.
Spaeth, Miss Louise M., Ohio State University, Columbus, Ohio.
†Speck, Prof. Frank G., University of Pennsylvania, Philadelphia, Pa.

---

*Associate member. †Not in attendance. ‡Deceased.

†Spier, Prof. Leslie, University of Washington, Seattle, Wash.
Spinden, Dr. Herbert Joseph, Brooklyn Museum, Brooklyn, New York.
Staatliches Museum für Völkerkunde, Königgrätzerstr. 120, Berlin, Germany.
†Staats- und Universitäts-Bibliothek, Königsberg i. Pr., Germany.
State Central Museum for Ethnology, Moscow, U. S. S. R.
†Stechert, G. E., and Company, 31–33 East 10th Street, New York City.
Steedman, Mrs. Elsie Viault, Hunter College, New York City.
†Stefansson, Dr. Vilhjalmur, Harvard Club, New York City.
†Steinen, Prof. Karl von den, 66 Güntzelstrasse, Berlin-Wilmersdorf, Germany.
†Stewart, Mr. George W., P. O. Box 1132, Sacramento, Cal.
Stirling, Mr. Matthew W., Bureau of American Ethnology, Washington, D. C.
†Stolyhwo, Dr. Kazimierz, Instytut Nauk Anthropologicznych, Sniadeckich 8, Warsaw, Poland.
Strelnikov, Dr. I. D., Lesshaft Institute, Leningrad, U. S. S. R.
Swanton, Dr. John R., Smithsonian Institution, Washington, D. C.

Tagliavini, Prof. Carlo, Università di Bologna, Bologna, Italy.
Tanner, Prof. Rollin H., New York University, University Heights, New York City.
†Tavera-Acosta, Dr. Bartolomé, Caracas, Venezuela.
Teeple, Mr. John E., 50 East 41st Street, New York City.
Tello, Dr. Julio C., Museo de Arqueologia Peruana, Lima, Peru.
Temple, Miss Laura, Apartado 115 bis, Mexico, D. F.
Termer, Dr. Franz, Universität, Wurzburg, Germany.
Thalbitzer, Prof. William, University of Copenhagen, Copenhagen, Denmark.
Thompson, Mr. J. Eric, Field Museum of Natural History, Chicago, Ill.
*Thompson, Mr. Ralph H., 655 Park Avenue, New York City.
Thompson, Mrs. Ralph H., 655 Park Avenue, New York City.
Toor, Miss Frances, Apartado 1994, Mexico, D. F.
†Toro, Mr. Alfonso, Heroes 108, Mexico, D. F.
Touring Club Italiano, Corso Italia, 10, Milan, Italy.
Tozzer, Prof. A. M., Peabody Museum, Cambridge, Mass.
Trumbull, Mr. Walter, 450 Riverside Drive, New York City.
Trumbull, Mrs. Walter, 450 Riverside Drive, New York City.
Tulane University, Department of Middle American Research, New Orleans, La.
Turner, Mrs. Herbert, Care of Mrs. Walter Trumbull, 450 Riverside Drive, New York City.

Uhle, Prof. Max, Universidad Central, Quito, Ecuador.
†Uhlenbeck, Prof. C. C., Bergendalsche weg 25, Nijmegen, Holland.
United States National Museum, Washington, D. C.
Universidad Católica, Santiago, Chile.
†Universidad Central, Quito, Ecuador.
Universidad de Chile, Santiago, Chile.
Universidad de La Plata, La Plata, Argentina.
Universidad de San Marcos, Facultad de Filosofia, Historia y Letras, Lima, Peru.
†Universidad Nacional de Mexico, Biblioteca, Lic. Verdad 2, Mexico, D. F.
Universität, Wien, Austria.
†Universitäts-Bibliothek, Dorotheenstrasse 81, Berlin, Germany.
†Universitäts-Bibliothek, Prinzenstr. 1, Göttingen, Germany.
†Universitäts-Bibliothek, Marburg, Germany.
†University Library, Leiden, Holland.
†University Library, Princeton, N. J.
†University Library, Uppsala, Sweden.
University of California, Berkeley, Cal.
†University of California Library, Berkeley, Cal.

---

*Associate member. †Not in attendance. ‡Deceased.

University of Chicago, Chicago, Ill.
†University of Cincinnati Library, Cincinnati, Ohio.
University of Copenhagen, Copenhagen, Denmark.
†University of Cracow, Cracow, Poland.
University of Illinois, Urbana, Ill.
University of Leningrad, Leningrad, U. S. S. R.
University of Michigan, Ann Arbor, Mich.
†University of Nebraska Library, Lincoln, Neb.
University of Oklahoma, Norman, Okla.
†University of Oklahoma Library, Norman, Okla.
†University of Oregon Library, Eugene, Oregon.
University of Oslo, Oslo, Norway.
University of Pennsylvania, Philadelphia, Pa.
University of Pennsylvania Museum, Philadelphia, Pa.
University of Texas, Austin, Texas.
University of Toronto Library, Toronto, Canada.
University of Warsaw, Warsaw, Poland.
University of Washington, Seattle, Wash.

Vaillant, Dr. George C., American Museum of Natural History, New York City.
†Vélez López, Dr. Lizardo, Casilla 53, Trujillo, Peru.
†Vignati, Dr. Milcíades A., Venezuela 2461, Buenos Aires, Argentina.
†Villar Córdova, Dr. Pedro E., Acequion 299, Lima, Peru.
†Villiers, Baron Marc de, 5 Avenue de Ségur, Paris (VII), France.
†Vishnevsky, Dr. Boris, Museum of Anthropology and Ethnography, Academy of Sciences, Leningrad, U. S. S. R.

Wagner, Mr. Günter, Department of Anthropology, Columbia University, New York City.
†Warburg, Prof. A., Heilwigstrasse 114–116, Hamburg, Germany.
†Warburg, Mr. Felix M., 52 William Street, New York City.
Wardle, Miss H. Newell, Academy of Natural Sciences of Philadelphia, Philadelphia, Pa.
†Watkinson Library, Hartford, Conn.
†Webster, Prof. Hutton, University of Nebraska, Lincoln, Neb.
*Weitzner, Miss Bella, American Museum of Natural History, New York City.
Weltfish, Miss Gene, 504 West 111th Street, New York City.
†White, Miss A. E., 115 East 55th Street, New York City.
White, Dr. Leslie A., Buffalo Museum of Science, Buffalo, N. Y.
Whorf, Mr. Benjamin L., 320 Wolcott Hill Road, Wethersfield, Conn.
Whorf, Mrs. Benjamin L., 320 Wolcott Hill Road, Wethersfield, Conn.
†Will, Mr. George F., Bismarck, N. D.
Williams, Prof. Herbert U., School of Medicine, University of Buffalo, Buffalo, N. Y.
†Williams, Rev. James, "Eupukari," Kentwood Hill, Tilehurst, Berks., England.
†Willoughby, Mr. Charles C., Peabody Museum, Cambridge, Mass.
Wissler, Dr. Clark, American Museum of Natural History, New York City.
†Wright, Dr. J. K., American Geographical Society, Broadway at 156th Street, New York City.
‡Wulfing, Mr. John M., Gildehaus, Wulfing and Company, Second and Walnut Streets, St. Louis, Mo.
Wulsin, Mr. Frederick R., Peabody Museum, Cambridge, Mass.

*Yampolsky, Helene Marie, (Mrs. Cecil), 230 Franklin Avenue, Grantwood, N. J.
Young, Prof. Levi Edgar, University of Utah, Salt Lake City, Utah.

---

*Associate member. †Not in attendance. ‡Deceased.

GENERAL PROGRAM OF THE SESSION

Monday, September 17

At the American Museum of Natural History

10:00 A. M. Preliminary Meeting for the Organization of the Congress. Room 202, School Service Building.

10:15 A. M. Meeting of the Council. Room 202, School Service Building.

12:00 M. Formal Opening of the Congress. Education Hall.

1:00 P. M. Luncheon. Southwest Hall.

2:30 P. M. General Session. Room 202, School Service Building.
General Topic: Cultural Relations between Aboriginal South and North America.
Chairman: José Toribio Medina. *Secretaries:* Th. W. Danzel; Julio Tello.

8:30 P. M. Reception by the President and Trustees of the American Museum of Natural History. Bird Hall.

Tuesday, September 18

At the American Museum of Natural History

9:30 A. M. General Session. Room 202, School Service Building.
General Topic: Cultural Relations between Aboriginal North America and Asia.
Chairman: W. Thalbitzer. *Secretary:* Therkel Mathiassen.

11:00 A. M. Sectional Meeting. Room 202, School Service Building. (Continued from General Session.)
General Topic: Ethnology of North America.
Chairman: W. Thalbitzer. *Secretary:* C. M. Barbeau.

11:00 A. M. Sectional Meeting. Room 310, School Service Building.
General Topic: Linguistics.
Chairman: Julio C. Salas. *Secretary:* E. Sapir.

11:00 A. M. Sectional Meeting. Room 208, School Service Building.
General Topic: Mexico and Central America.
Chairman: Thomas A. Joyce. *Secretary:* L. C. G. Clarke.

1:00 P. M. Luncheon. Bird Hall.

2:30 P. M. Sectional Meeting. Room 202, School Service Building.
General Topic: Ethnology and Archaeology of North America.
Chairman: W. Koppers. *Secretary:* F. M. Olbrechts.

2:30 P. M. Sectional Meeting. Room 310, School Service Building.
General Topic: Linguistics.
Chairman: W. G. Bogoras. *Secretary:* Carlo Tagliavini.

2:30 P. M. Sectional Meeting. Room 208, School Service Building.
General Topic: Mexico and Central America.
Chairman: L. C. G. Clarke. *Secretary:* Martin Gusinde.

5:00 P. M. Meeting of the Council. Room 308, School Service Building.

8:30 P. M. Illustrated Lectures on the Maya, by Sylvanus G. Morley and Frans Blom. General Assembly Hall.

Wednesday, September 19

At the Museum of the American Indian, Heye Foundation,
and
The Hispanic Society of America

10:00 A. M. General Session. Sorolla Room, Hispanic Society of America.
General Topic: South American Problems.
Chairman: Fernando Marquez Miranda. *Secretary:* J. P. B. de Josselin de Jong.

1:00 P. M. Luncheon. Museum of the American Indian, Heye Foundation.

At the American Museum of Natural History

2:30 P. M. Sectional Meeting. Room 202, School Service Building.
General Topic: American Ethnology.
Chairman: Clark Wissler. *Secretary:* Truman Michelson.
2:30 P. M. Sectional Meeting. Room 208, School Service Building.
General Topic: South America.
Chairman: Max Uhle. *Secretary:* Julio Tello.
2:30 P. M. Sectional Meeting. Room 310, School Service Building.
General Topic: Physical Anthropology.
Chairman: L. Cipriani. *Secretary:* B. Oetteking.
4:00 P. M. Moving Pictures. Room 202, School Service Building.

Thursday, September 20

At Columbia University

9:30 A. M. General Session. Room 307, Havemeyer Hall.
General Topic: Cultural Relations between America and the South Pacific.
Chairman: E. Nordenskiöld. *Secretary:* Truman Michelson.
11:00 A. M. Sectional Meeting. Room 307, Havemeyer Hall.
General Topic: Mexico and Central America.
Chairman: Antonio Carlos Simoens da Silva. *Secretary:* Truman Michelson.
11:00 A M. Sectional Meeting. Room 354, Havemeyer Hall.
General Topic: Ethnology of North America.
Chairman: A. M. Tozzer. *Secretary:* Ruth F. Benedict.
12:30 P. M. Luncheon. Faculty Club.
1:45 P. M. Excursion to Garrison-on-the-Hudson and Reception at Castle Rock by Professor and Mrs. Henry Fairfield Osborn.

Friday, September 21

At the Brooklyn Museum

10:00 A. M. General Session.
General Topic: South America and the Southwest.
Chairman: K. Th. Preuss. *Secretary:* Ruth F. Benedict.
11:30 A. M. Sectional Meeting.
General Topic: Early Spanish and French Influence upon the American Indians.
Chairman: K. Th. Preuss. *Secretary:* Ruth F. Benedict.
11:30 A. M. Sectional Meeting.
General Topic: Southwestern Tribes.
Chairman: A. V. Kidder. *Secretary:* J. R. Swanton.
1:30 P. M. Luncheon.
3:00 P. M. Excursion to Glen Cove, Long Island, and Reception at the home of Mr. and Mrs. Frederic B. Pratt.

Saturday, September 22

At the American Museum of Natural History

9:30 A. M. General Session. Room 202, School Service Building.
General Topic: Antiquity of Man in America.
Chairman: Hugo Obermaier. *Secretary:* Therkel Mathiassen.
11:00 A. M. Meeting of the Council. Room 308, School Service Building.
12:00 M. Closing Session. Education Hall.
2:30 P. M. Extra Session. Room 202, School Service Building.
Held to afford the belated Mexican Delegates an opportunity to present several of their papers necessarily omitted from the scheduled program.

CONSTITUTING MEETING

Monday, September 17, 1928, at 10:00 A. M.

Room 202, School Service Building, American Museum of Natural History

IN accordance with customary procedure, based on Article 9 of the Statutes, the Preliminary or Constituting Meeting was called by Professor Franz Boas, the Chairman of the Organizing Committee. About fifty delegates were present.

ORDER OF BUSINESS

I. Brief Greeting by the Chairman.
II. Nomination of the Permanent Bureau of the Congress.

The original list of officers, honorary and executive, here read by the Secretary, had been previously prepared by the Organizing Committee, in conference with such members of the Permanent Committee as were present. Several changes were made and the final list, later elected at the Opening Session, is given on preceding pages of this report.

Meeting adjourned at 10:15 A. M.

OPENING MEETING

Monday, September 17, 1928, 12 M.

Education Hall, American Museum of Natural History

PROGRAM

I. Opening of the Meeting by the Chairman of the Organizing Committee.
II. Delivery of Authority by the previous Congress at Rome.
III. Report of the Secretary on the nomination of officers; vote of election.
IV. Opening address by the President.
V. Welcome to the Congress by the Honorary President.
VI. Address of welcome to the Foreign Delegates on behalf of the United States Government.
VII. Responses by the Foreign Delegates.
VIII. Announcements by the Secretary.
IX. Adjournment to the front of the Museum for group photograph.

I

The meeting was formally opened by the Chairman of the Organizing Committee, Professor Franz Boas. About 275 delegates and visitors were present.

II

Delivery of Authority by the previous Congress at Rome.

In the absence of the General Secretary, Professor G. V. Callegari, this function was performed by Professor Marshall H. Saville of the Permanent Committee.

III

The Secretary read the list of officers for the Congress and members of the Permanent Bureau as nominated at the Constituting Meeting, and this list being put to vote was unanimously elected. The Organizing Committee thereby ceased to exist, passing into the membership of the Permanent Bureau, which took its place.

IV

The Chair was taken by Professor Franz Boas of Columbia University, President of the Congress, who delivered the following address:—

Ladies and Gentlemen:—

It is a great honor to be allowed to greet the Delegates, Members, and Associates of the Twenty-third International Congress of Americanists. It is the second time that the Congress has assembled in the halls of this Museum. We met here twenty-six years ago under the presidency of Mr. Morris K. Jesup and Professor F. W. Putnam. Many of the friends who were with us at that time are not here today, but we remember them in loyal friendship.

The President of the Stuttgart Congress, Professor Karl von den Steinen, known through his epoch-making researches in Brazil; Dr. Alfred P. Maudslay, Chairman of the Organizing Committee for the London Meeting and author of the monumental work on Central American art; Professor Louis Capitan, Dean of French archaeologists; Doctor Paul Rivet, to whom we are deeply indebted on account of his useful activities as Secretary of the Société des Americanistes of Paris; Doctor Franz Heger, the faithful Secretary of the Congress of Vienna; Professor W. H. Holmes, Honorary President of the Washington Meeting of the Congress, to whom American archaeology owes so much; and Mrs. Seler, widow of the lamented Eduard Seler, are among the familiar faces that we miss and to whom we send our greetings.

With sadness we think of those whom death has carried away from our ranks, and since the days of the Congress of Rome, two years ago, death has reaped a rich harvest. Joseph Florimont, Duke of Loubat, who has so liberally endowed Americanist studies, passed away on February 28, 1927. We owe to him the establishment of a number of professorships for the study of American archaeology and ethnology, particularly in Paris, Berlin, Stockholm, and New York. Unfortunately, the aftermath of the war has destroyed the chair established in Berlin. It seems appropriate to express the wish that this important chair should be reëstablished. Many were the expeditions and publications financed by the liberality of Mr. Loubat.

Doctor Leon Diguet, the naturalist, who gave us a great deal of novel information on the natives of Lower California, died on April 21, 1926.

Doctor Leopoldo Batres, Honorary Vice-President of the meeting held in Mexico, died in December, 1926. He was a collector deeply interested in the remains of the ancient Mexican civilization.

Doctor Phillipe Marcou, Vice-President of the Société des Americanistes of Paris, died June 22, 1927. He was a faithful member of the Congress and his familiar face is sadly missed.

Doctor George Byron Gordon, Director of the Museum of the University of Pennsylvania, Philadelphia, died in January, 1927. His own researches refer to the archaeology of Central America and to the tribes of Alaska, and the growth of the University Museum is largely due to his endeavors.

Mr. W. C. Mills, Curator of the Archaeological Museum of the Ohio State University in Columbus, died on January 17, 1928.

Another member, who graced by his presence the Congresses of Göteborg and Rome, and whose death is deeply lamented, is Doctor Otto Nordenskiöld, the excellent geographer.

There are two other outstanding names of men who have passed away. Doctor Leo J. Sternberg died on August 14, 1927. He was the leader of the Russian ethnologists and through his influence the treasures of the Museum of the Russian Academy of Science are being made accessible to students. His own great work was the study of the natives of the

Amur River and of the Island of Saghalin. But his influence upon the study of ethnology extended over the whole world. Through his death Russian ethnology has suffered a severe loss. He was a dear friend to me and I feel his death as a personal loss.

Our meeting is still more deeply touched by the untimely death of Doctor Pliny E. Goddard, Secretary of the Committee on Organization of the present Session of the Congress. He died on July twelfth of this year after a brief illness. This is perhaps not the place to speak of the great value of Doctor Goddard's work in the development of the exhibition halls of this Museum and of his important contributions to our knowledge of the aboriginal tribes of California, New Mexico, and Arizona; of his excellent, popular presentation which makes the collections of this Museum of unusual value to the visitor; and of his stimulating influence upon the younger generation of anthropologists. Through his death the present Session of the Congress has suffered an irreparable loss, and I beg to ask you to lay any of the shortcomings of the arrangements, not upon his shoulders, but upon those of his survivors. All of us who were privileged to work with him feel keenly the loss we have sustained. His loyalty, helpfulness, and good humor, combined with his sturdiness of character, were a constant joy to his associates.

I beg to ask you, ladies and gentlemen, to honor the memory of our deceased colleagues by rising. [The audience rose in a body.]

The last two years, since the meeting in Rome, have been years of unusual activity in our field. The increasing interest is proved by the foundation of a Society of Americanists in Germany, in 1926, and in Belgium in 1927. The extension of ethnological knowledge has brought to the fore a number of important problems of general interest, which will also receive particular attention during the present session. Among such questions are (1) the historical relations between the early civilizations of South America and North America; and (2) the history of the early contact between Asia and America, a problem that was first taken up energetically by the Jesup North Pacific Expedition of this Museum. Owing to the investigations of Doctor Rivet and others, the question of cultural and racial relations between the southern parts of America and Australia and adjoining islands has also been brought forward and needs full discussion.

Other important problems that are before us relate to the antiquity of man in America and the significance of the multiplicity of languages on our continent.

It will be seen that most of these questions compel us to extend the field of our researches beyond the American continent. We can no longer confine ourselves to the archaeology and history of the aborigines of America, but the problem of the relation of America to other parts of the world must be taken up on a new basis.

It is impossible to treat the parallelisms between American aboriginal culture and those of the Old World without being brought face to face with the most fundamental problems of ethnological science, problems that cannot be solved on the ground of Americanistic studies alone but must be considered from a wider point of view.

The geological age of man in America cannot be solved without a knowledge of the chronological adjustment of American and Old World strata and without clarity in regard to the chronological significance of parallelism of form. The historical meaning of the numerous varieties of American languages must be compared to similar problems in Africa and Asia. The question of relationship between the cultural forms of America and those of the eastern hemisphere brings up the old contested problems of diffusion, of independent development, and of regularity of cultural sequences. These conditions may compel us to consider the question whether a close affiliation between the Americanist Congress and the general anthropological congresses may not be desirable.

When we compare the aim of our labors with the task of the congress on chemistry, just closed, it may seem that our subjects are far remote from the practical interests of our day, for it is our object to reconstruct the history of the past and to understand the growth of culture and civilization among the aborigines of our continent. While the statutes of the International Congress of Americanists provide for the study of geography and the modern history of the two Americas, the development of our meetings has been such that the interest is almost entirely centered in the history of the native population; and although it is true that our researches may have no immediate bearing upon the problems of our times, they will have one useful result: they will instill respect for the achievements and ability of the American race and will help us to overcome the feeling of superiority that vitiates our dealings with foreign races and foreign nations.

Allow me to welcome you once more and to wish you the best success for the discussions of the coming days.

V

The Address of Welcome on behalf of the four New York and Brooklyn institutions under whose auspices the Congress convened was delivered by Henry Fairfield Osborn, President of the American Museum of Natural History and Honorary President of the Congress, who spoke as follows:—

Ladies and Gentlemen:—

I have the honor of speaking on behalf of the Museum of the American Indian, represented by its founder, Doctor George G. Heye, here on the platform; of Columbia University, regretting that President Butler was prevented from welcoming you in person; of the Brooklyn Institute of Arts and Sciences, and of the American Museum of Natural History.

We are gratified that the invitation extended by our representative to the Congress in Rome has been accepted and that so many different nationalities, both of the eastern and the western hemispheres, and so many scientific institutions, have sent delegates and representatives. We feel confident that in this Congress there will be a great interchange of opinions and knowledge. We hope that you will be rewarded for the long journey you have taken, coming from remote parts of the United States and from many foreign lands.

Personally I have become particularly interested in anthropology, especially in prehistoric archaeology, but the observations I have been privileged to make with the aid of such guides as Professor Hugo Obermaier of the University of Madrid have brought me to believe that not only the chief anthropological problem but the chief biological problem is the history of man, and that all the sciences which are grouped under biology, including of course anthropology, must converge on the most difficult problem in the whole biological field, that is, the personality, achievements, and intelligence of man.

As our President has so well stated in his opening address, I am sure that many of you will be thrilled by recent explorations, such as those conducted by Doctor S. G. Morley, under the auspices of the Carnegie Institution, in Yucatan, which have increased our knowledge of the wonderful people who built those splendid temples.

It is also a pleasure to speak particularly of the Department of Anthropology in this institution and its history. The problem set before Professors Putnam and Boas in the early years of 1895 and 1897 will be the chief problem before this Congress: What are the relations between the primitive peoples of North and South America and the Old World? It seems to me that in the current papers on diverse subjects this should be the outstanding one. Our distinguished delegate Professor Penck, as well as Professor Capitan, who is unavoidably absent, agrees that all these problems centering around American tribes should be the main theme for discussion on this occasion.

We hope that your serious moments will be interspersed with others of entertainment here, at Columbia University, at the Brooklyn Museum, and in other parts of our great city.

Before I close I might say that I consider the city of New York to be one of the outstanding achievements of the human mind—that its progress of the last few years is something that ranks with the great monuments of Peru, Yucatan, and Mexico.

It gives me great pleasure, at the request of our President, to introduce a representative of the United States Government. Most of our Government officials are so occupied with affairs of state that it is very rare that the United States can send us a representative, and one who is also an accomplished scientist. I take great pleasure in introducing Senator Hiram Bingham.

VI

The Honorable Hiram Bingham, United States Senator from Connecticut and Honorary Vice-President of the Congress, on behalf of the United States Government welcomed the foreign delegates in the following words:—

Ladies and Gentlemen:—

It gives me great pleasure, on behalf of the United States Government, to welcome the delegates from foreign governments to this country. I hope that you will express to your governments, when you return, the cordial good wishes of our government in relation to scientific matters and all others. We greatly appreciate the courtesy which your governments have so frequently shown to the delegates of this Congress when it has met in your countries. Personally it gives me great pleasure to see on the list of delegates my old friends, José Reygadas Vertiz of Mexico, Max Uhle of Ecuador, and Julio Tello of Peru. It makes me feel at home when I see these distinguished delegates here and find old friends.

There are certain people who wonder why the United States Government should take an interest in the work of this Congress—why they should send delegates and be anxious to welcome them. There are some people who think that researches of this kind will lead only into blind alleys where there is nothing to be found—while any sort of invention along mechanical lines, or technical device which results in greater comfort or entertainment, is to be encouraged and developed. But recently I conversed with a young student who spent two months this summer working in one of our great factories, feeding rivets into a machine. He was paid but a few cents for each thousand rivets. Eventually he told me that this sort of work gave him opportunity for thought—when the act became mechanical. This explains, perhaps, the interest which so many millions of our industrialized citizens show in sports; it doubtless also explains our interest in the sport of discovery and exploration and our desire to penetrate into the past of the aborigines. This is the most exciting of all sports—exploration; a kind of sport second to none, as I know from my own experience. I wish that I had something of the kind to look forward to.

But all people are deeply interested in the progress which we have been making in the field of research. They look forward to interesting developments. Our own governmental departments are also interested in many of the features of this country. The Bureau of Ethnology and the National Museum have problems which deal with the wards of the nation. Most people think the Indians are decreasing in numbers; others think there are more now than there ever were. This year for the first time many thousands of Indians are going through that mysterious process of casting their first ballot for President of the United States. There are things to learn in America, especially ancient America, which will be of great benefit to us in our attitude toward the wards of the nation.

And, finally, we believe as a country that our progress is based upon truth. We believe that truth is mighty and must prevail. We believe that law and the science of government are based on truth. And though many of you are concerned with truths which you do not regard as practical, there is no telling but that the truths you are first to proclaim may not be of great benefit to the Government and to us.

I wish to extend to you the most cordial welcome and trust that your conferences may be an addition to the world's collection of truths, on which we may depend for our future progress.

VII

Responses to the Addresses of Welcome were made by Doctor José Toribio Medina of Chile, the ranking senior member of the foreign delegates; by Doctor Antonio Carlos Simoens da Silva of Brazil, and by Professor Albrecht Penck of Germany. The remarks of Doctor Medina were as follows:—

Senor Presidente, Senores Congresistas, Senoras y Senores:—

Cábeme la honra de haber sido designado para tomar la palabra a nombre de los delegados al presente Congreso, ciertamente no por mis merecimientos, sino, a la vista está, por el privilegio—no sabré decir si envidiable—de los años que sobre mí cargan. Y puesto en tal extremo, me complazco en reconocer, y en esto creo interpretar el sentir de mis colegas, que el brillo que desde luego es dado augurar a la actual reunión, se deberá, en primer lugar, al espíritu patriótico que anima a los hijos de esta gran nación para que en este terreno como en cuantos son llamados a figurar, aspiren a ser los primeros, que bien lo demuestran ya hoy las adhesiones por centenares a semejante obra de progreso científico; y por lo que a mi especialmente toca—

me apresuro a expresarlo—el hecho de la celebración de un Congreso de Americanistas en tierra Americana ha ido a repercutir hasta las más remotas lindes de nuestro continente, de donde, deseoso de aportar aunque más no sea un grano de arena a este torneo internacional, abandonando los patrios lares y desafiando el rigor de innúmeros abriles, llegue alguno hasta aqui, animado del mismo anhelo de trabajo y del interés por el adelanto de unos estudios tan íntimamente vinculados al conocimiento de los hombres que nos precedieron en la vida en estas tierras.

Informado por tales elementos, es dado afirmar—creo no equivocarme—que este Congreso será bajo todos aspectos memorable. Esa es al menos la íntima convicción que me anima y de que estoy seguro participan también mis colegas y ha de verse realizada en la práctica.

VIII

The General Secretary made several announcements and explanations relative to the conduct of the Congress: (1) In particular the attention of the delegates was invited to the Special Exhibits of anthropological specimens and literature displayed in Education Hall and elsewhere. (2) Owing to the large number of papers to be presented, all speakers at the scientific meetings were earnestly requested to observe the twenty minutes limit and the Chairmen were asked to enforce the rule, except where otherwise indicated. (3) Explanations were offered as to the duties of the Secretaries for the scientific meetings. (4) Minor changes in the printed program were explained. (5) The delegates were asked to register for the various excursions, to call for mail, etc., etc.

IX

The Opening Session was adjourned at 1:00 P. M. and the delegates proceeded to the front of the Museum for a group photograph of the Congress, after which all repaired to the Southwest Hall, where luncheon was served.

SPECIAL FEATURES OF THE CONGRESS

Daily Meetings

The scientific program of the Congress was carried out in conformity with the schedule as given above, except for minor shifts of individual papers, due mainly to the delayed arrival of the Mexican delegation. General sessions, more or less brief, were held daily; but owing to the number and variety of papers to be presented it became necessary to group related topics and to conduct three simultaneous meetings on all but the first and last days of the session. This unavoidable arrangement may have worked hardship on delegates with inclusive interests; but the inconvenience was reduced to a minimum by the fact that all sectional meetings were held in adjacent rooms.

Papers Presented

Interest, both popular and scientific, was manifested in the Twenty-third Congress, on the one hand by the liberal registration of members and on the other by the numerous papers presented to the Program Committee. It is impossible here to cite all the proffered essays, or even those provisionally accepted and perhaps read (the secretarial reports received were incomplete on this point); but those ultimately deemed suitable for publication are of course included in the present volume. As a matter of record, the total number of titles received was 114. Several of these were sent in by non-members, and a few member and non-member essays arrived even after the close of the session. One paper from a member was a typescript of over 700 pages. Abstracts of nearly all of these papers were printed in both English and Spanish, for distribution primarily among members of the Congress, whether in attendance or not. For purposes of the scientific meetings all the acceptable papers were grouped under ten general topical headings, as indicated in the preceding General Program.

Exhibits for the Congress

The American Museum of Natural History, as the principal host, exhibited for the occasion the entire range of its publications. All the more distinctly popular books and pamphlets were displayed in the Foyer, generally designated Memorial Hall; while the scientific treatises were placed, for the most part, in the respective exhibition halls to which they were related. The space utilized totaled 28 square meters.

Exhibits by the Congress

A really considerable amount of interesting and valuable new material was brought to the Congress by delegates from many places near and far. The quantity was so great as to preclude detailed listing. Special mention must be made, however, of the beautiful turquoise plaque recently found by the Carnegie Institution Expedition at Chichen Itza and brought through great perils of fire and water by the Mexican delegates; a splendid exhibit of grave models and ceramics brought from Peru by Doctor Tello; and a very interesting archaeological collection obtained by the Thule Expedition to Arctic America and brought by Doctor Mathiassen from Denmark. Synoptic collections of new archaeological material from Mongolia and China were also exhibited by the American Museum of Natural History. The remainder of the exhibits may be summarized as consisting of:—

a. Original specimens, archaeological and ethnological
b. Models
c. New facsimiles of the Vienna Codex
d. Drawings, tracings, maps, etc.
e. Enlarged photographs
f. Colored prints
g. Publications

The contributing nations, listed alphabetically and not in the order of importance, were:—

Argentina
Austria
Denmark
Germany
Mexico
Peru
United States of America
United States of Soviet Republics

Literature Presented to the Congress

The amount of literature presented to the Congress was again so great as to make detailed citation prohibitive. The character of the publications received ranged from duplicate copies of various serial publications on different phases of anthropology to monographic pamphlets and large, expensive, bound volumes. The material filled more than a dozen shipping cases and totaled nearly 1,000 kilograms. By far the greater bulk was the gift of the Mexican government.

The contributing nations were:—

Argentina,	3	titles
Austria,	6	titles
Denmark,	15	titles; 6 duplicates
Ecuador,	1	title; ca. 50 duplicates
Guatemala,	1	title; 5 duplicates
Mexico, ca.	20	titles; 50 to 70 duplicates
Sweden,	2	titles
U. S. A.,	3	titles; several duplicates
U. S. S. R.,	28	titles
Venezuela,	1	title; ca. 100 duplicates

The distribution of the publications was as follows:—

Complete sets of the titles presented were, as far as possible, given to the four New York and Brooklyn institutions under whose auspices the session was held. The remainder was left for interested members of the Congress to take away.

Popular Lectures and Motion Pictures

As indicated on the preceding program, the Organization Committee arranged for two illustrated lectures, which were given consecutively on the same evening. One address embodied a description of the remarkable Maya ruins recently excavated by the Carnegie Institution of Washington and was given by Doctor S. G. Morley, the Director of the work; the other, by Frans Blom of Tulane University, dealt with his recent explorations in new Maya territory. The lectures were open to the general public and were well attended.

Of a similarly popular nature were two motion pictures staged in adjacent halls following the scientific session on Wednesday afternoon. One featured the ceremonial of the Navaho Mountain Chant, in six reels, made and presented by Mrs. L. A. Armer of Berkeley, California, and the other illustrated the recent exploration and mapping of Brazilian Guiana with hydroplane and wireless, in two reels, by A. Hamilton Rice of New York City. These presentations were also attended by large and appreciative audiences.

Functions and Entertainments

The distinctly public social features of the Congress took place as scheduled in the program and deserve a few words by way of amplification. The weather for the week afforded the visitors an experience of the whole seasonal gamut of variations: first heat, then rain, and finally ideal conditions, which last fortunately coincided with all the outdoor events.

The Formal Reception to the members of the Congress by the President and Trustees of the American Museum of Natural History was held on Monday evening in the Bird Hall of the Museum, refreshments being served out of doors on the grand stairway veranda. In addition, luncheon was served daily throughout the week at whichever of the four entertaining institutions the session of the day took place, and these events proved to be interesting and delightful social occasions.

On Thursday afternoon, through the generosity of the American Museum Trustees and the kindness of Honorary President and Mrs. Henry Fairfield Osborn, the members of the Congress enjoyed an excursion by private steamer to Garrison-on-Hudson (distance about forty miles) and a reception at Castle Rock, the summer home of the host and hostess. The scenic and historic associations of the local surroundings—the Palisades, West Point Military Academy, and so on—are features that will linger in the beholder's memory. Not less impressive was the return journey by moonlight, which, however, was interspersed with a necessary Committee Meeting and an informal dinner. About 115 delegates and friends took part in the excursion.

Friday afternoon saw another excursion by auto buses from the Brooklyn Institute of Arts and Sciences, where the day's session was held, to Glen Cove on the north shore of Long Island. Here a reception was tendered the delegates at the beautiful home of Mr. and Mrs. Frederic B. Pratt. The journey through a rapidly developing sector of the Metropolitan district, the splendid view of the quiet Sound and the hazy Connecticut shore beyond, together with refreshments served on the lawn, made a pleasant break in what might otherwise have been a tedium of scientific papers. Our party, consisting of about eighty individuals, returned to New York in the early evening.

MEETINGS OF THE GOVERNING BUREAU AND COUNCIL

In accordance with Article 10 of the Statutes, the Governing Bureau and Council of the Congress met as occasion demanded (in all three times) to consider such matters as were laid before them.

I

The first meeting was called immediately following the Constituting Meeting, on Monday at 10:15 A. M., in Room 202 at the American Museum.

President Boas occupied the Chair.

The following members of the Governing Bureau, Council, and ex-officio representatives of the Permanent Council were present: Boas, Bogoras, Clarke, Culin, Heye, Hough, Hrdlička, Jochelson, De Jong, Joyce, Penck, Tozzer, Nelson.

Order of Business

1. The Chairman spoke briefly of the very full program for the week and the absolute necessity of restricting the contributors to a twenty-minute schedule, except as otherwise indicated by the program.

2. The Chairman brought up a communication of August 13 ult., from the Royal Anthropological Institute, in reference to the desirability of future coöperation between the various International Congresses for Anthropological Studies and the International Congress of Americanists.

Vice-President Hrdlička urged the importance of the subject and gave a brief historical account of the movement, which he said was initiated in London in 1912, and concluded his remarks by offering a motion that the Chairman appoint a committee to consider the question in detail.

Mr. Heye asked if ''cooperation'' would destroy the present organization, and being answered in the negative, he seconded the motion, which was then carried unanimously.

The committee appointed by the Chairman consisted of: Hrdlička (Chairman), Callegari, Joyce, Preuss, Tello, and (ex-officio) Beasley, Boas, and Nelson.

Meeting adjourned at 10:45.

II

The second meeting was called on Tuesday at 5 P. M., in Room 308, at the American Museum.

President Boas presided.

Those present were: Beasley, Blom, Boas, Callegari, Clarke, Da Silva, De Jong, Gusinde, Heye, Hough, Hrdlička, Isachsen, Joyce, Kidder, Koppers, Kroeber, Nordenskiöld, Nuttall, Preuss, Sapir, Tello, Wissler.

Order of Business

1. The Chairman suggested sending greetings by wire to the following absent members: Mrs. Cecilia Seler, Mr. Alfred P. Maudslay, Prof. L. Capitan, Prof. Paul Rivet, Hofrat Prof. Franz Heger, Prof. Von den Steinen, Prof. Amedeo Giannini, and Curator W. H. Holmes. On motion, the meeting so ordered.

2. The Secretary read the proposal from the Royal Anthropological Institute regarding coöperation of the various International Congresses, and likewise the reply drafted by Dr. Hrdlička's committee, which in the form of a resolution is as follows:—

Resolution Relating to the Desirability of Future Cooperation on the Part of the Various International Anthropological Congresses

Whereas, since the Congress of Americanists held in Vienna in 1908, various proposals have been made leading towards coöperation of the different International Anthropological Congresses; and

Whereas, a renewed proposal has recently been received from the Royal Anthropological Institute;

THEREFORE BE IT RESOLVED:

(1) That it is the sense of the Americanists assembled that the organization of a truly International Congress for Anthropology, embracing all nations, be organized in Europe.

(2) That it is further the sense of this Congress that it would be desirable to hold the General Anthropological Congress and the Congress of Americanists at such times and places as to make coöperation possible.

(3) That the next Congress of Americanists will be held in Europe in 1930 and we shall be glad if the General Anthropological Congress, to be organized, could meet at the same time and place.

3. Mr. Heye brought up the question of repositories for the published Proceedings of the Congress.

The Chairman thought the matter required an amendment to the Statutes.

It was moved and seconded that the Chair appoint a committee to consider all matters to be brought before the Governing Bureau and Council at its next meeting. Motion carried.

4. The question of the status of Mrs. Wilson Popenoe from Honduras was brought up and the Chairman stated that she was not strictly speaking a Government Delegate.

Meeting adjourned at 5:50.

III

The third and last meeting was held on Saturday at 11 A. M. in Room 308 at the American Museum.

President Boas occupied the Chair.

Those present were: Culin, De Jong, Heye, Hough, Isachsen, Joyce, Kidder, Kroeber, Medina, Nordenskiöld, Nuttall, Penck, Saville, Tello, Thalbitzer, Wissler.

Order of Business

1. The Secretary read the recommendation of the sub-committee (appointed according to vote of the last meeting) that the formal invitation extended by the Senate of Hamburg be accepted and that the XXIV International Congress of Americanists be held there in 1930.

The adoption of the recommendation was moved, seconded, and unanimously carried.

2. The Secretary read the sub-committee's recommendation of an amendment to Article 14 of the Statutes, requiring the Publication Committee to insert

a statement in the published Proceedings naming the institution or library in which the archives of the Congress have been deposited.

Approval was moved, seconded, and unanimously carried.

3. The Secretary read the sub-committee's recommendation of an additional amendment to Article 14, requiring the Publication Committee to place one hundred (100) copies of the published Proceedings with a bookseller, who is to act as the authorized sales agent.

Vote of approval was unanimously carried.

4. The Chairman read the substance of a resolution presented by Doctor C. Tagliavini that the XXIII Congress of Americanists, in view of the importance of the linguistic and ethnographical materials preserved in the Italian libraries, and in view of the absence of any bibliography of this kind, considers it desirable that an inquiry be conducted in all Italian libraries by means of questionnaires.

The resolution was unanimously approved and the meeting further recommended that Doctor Tagliavini himself be intrusted with the task and that he present the results of his inquiry at the next Congress.

5. Doctor Medina, of Chile, read the substance of a resolution that the XXIII Congress of Americanists recommend to the Governments of Mexico, Central America, and South America the establishment of Professorships in American Archaeology and Ethnology.

The resolution was unanimously approved.

6. Professor Penck, of Germany, presented the substance of a resolution that the XXIII Congress of Americanists express its desire to see reëstablished the Loubat Professorship of American Archaeology and Ethnology in Berlin.

The resolution was unanimously approved.

7. Mrs. Nuttall, incidental to the discussion of items 5 and 6, expressed her desire to establish at her residence, Casa Alvarado, Coyoacan, D. F., Mexico, a home for anthropology and anthropological studies.

8. Doctor Da Silva, of Brazil, proposed the recording of a vote of regret and respect on the occasion of the decease of Doctor Manuel de Oliveira Lima, who died recently at Washington, D. C., and who, at the Vienna session of the Congress, introduced the use of the Portuguese language.

Unanimously carried.

9. The Secretary read a telegram from Mr. L. V. Coleman, Executive Secretary of The American Association of Museums, as follows:—

> "Greetings from Tiahuanaco. Suggest Congress consider needful protection of these remains against gross defacement and petty vandalism."

The subject, already considered by sub-committee, was discussed at length by Nordenskiöld, Tello, Boas, Penck, Kidder, and Saville. Boas finally proposed that it be referred to the Permanent Committee.

The acceptance of this proposal was unanimously voted.

10. The Chairman read the names (selected originally by the Organization Committee) of those proposed for the Publication Committee, whose duty it will be to edit, publish, and distribute the Proceedings. The names are: Clark Wissler, *Chairman,* Franz Boas, F. W. Hodge, S. K. Lothrop, N. C. Nelson.

On motion the Secretary was ordered to cast the ballot for their nomination.

Meeting adjourned at 11:45.

CLOSING MEETING

Saturday, September 22, at 12 M.

Education Hall, American Museum of Natural History

President Franz Boas presided. About two hundred delegates and visitors were present.

Preliminary Remarks

The President extended greetings to the newly arrived Mexican delegates, whose steamer had been delayed an entire week, first by fire on board and later by a serious storm.

The President read cablegrams from absent members, as follows:—

1. ''Remerciements, regrets, amitiés.—L. Capitan.''
2. ''Direccion Museo Etnografico saluda cordialmente Congresistas. Deseando exitos sescenes.—Salvador Debenedetti.'' (Buenos Aires.)
3. ''Very many thanks for kind greetings. Wish all success to Americanist Congress. Deeply regret inability to attend.—Maudslay.''
4. ''Heartiest thanks. All hail Congress.—Von den Steinen.''
5. Hearty congratulations from Ethnographic Museum Academy of Sciences.—U. S. S. R.''

Recommendations of the Governing Bureau and Council

1. Amendments, Resolutions, Proposals, and Nominations.—The Secretary read the texts (see preceding Minutes, pp. xlvii–xlviii) of the two amendments, four resolutions, two proposals, and one list of nominations, as approved at previous meetings of the Governing Bureau and Council. On being put to vote these recommendations were unanimously adopted by the Congress.

2. Invitation for the next Congress in Europe.—The Secretary read the further recommendation of the Governing Bureau and Council that the formal invitation extended by the Senate of Hamburg be accepted and that the XXIV International Congress of Americanists be held in Hamburg in 1930. The adoption of this recommendation was moved, seconded, and unanimously carried by the Congress.

The Chairman announced the Hamburg Committee of Organization as follows:—

Professor Georg Thilenius (Ethnographical Museum).
Professor Hans Kuchler (American Institute).
Professor A. Warburg (University of Hamburg).

Communication in re American Institute of Genoa

Professor G. V. Callegari gave a brief summary concerning the Ethnological Section of the American Institute of the City of Genoa, as follows:—

Ladies and Gentlemen:—

It is my great honor and pleasure to inform you, on behalf of the esteemed Podestà of Genoa, Hon. Broccardi, of the following, in the belief that it will please those that have gathered here in New York, which city for the second time extends a warm and generous welcome to the Americanists of the whole world.

It is not known by many that the city of Genoa owns one of the richest American archaeological and ethnographical collections in Italy, partly made up of gifts from Catholic Missions and partly of private collections; and it, no doubt, will be increased shortly by more collections bought or donated. Of said collections, which are little known and have not been studied so far, as proper exhibition places were not available, a clear and complete catalogue is being prepared. The archaeological collections pertain mostly to Peru (Chimu), Colombia, Honduras (Maya), Argentine Republic (Diaghites), and in a small part to Mexico (Nahua); the ethnographical collections pertain, in general, to natives of South America.

The Podestà of Genoa made arrangements to have the archaeological as well as the ethnographical collections placed at last in one of the villas owned by the city of Genoa, to be exact, in Genoa-Pegli, in the magnificent villa d'Oria, where once lived the great Genoese Admiral, Andrea d'Oria, and the city entrusted the said final arrangement and work to Professor Orlando Grosso, Director of the Bureau of Beaux Arts and History of Genoa.

But in order to strengthen the usefulness of and interest in the new Institute—the only one of its kind in Italy and perhaps in Europe—and in order to make the bonds between Genoa and the republics of the New World still closer, the Honorable Podestà ordered that besides said collections which shed a light on the ancient Pre-Columbian and Post-Columbian civilizations, a permanent exhibition of the modern and present spiritual, artistic, and industrial conquests of American peoples be also established.

The American Institute of the City of Genoa, which will be inaugurated next year, will therefore include: (1) the archaeological section: (2) the ethnographical section, both located on the second floor; (3) the section relative to the development of the modern cultural and economic life. Therefore every American nation will be given one or more halls for a permanent exhibition of her industrial and commercial products.

The new Institute will have a special library, which has already several hundreds of volumes and magazines, for the use of students. Moreover, in order to complete the purpose and mission of said Institute, there will be held by Italian and foreign learned men courses (lessons and lectures) on the archaeology, ethnography, art, geography, history, and economic life of the two Americas.

The American Institute of the City of Genoa will thus bind together the greatest Italian maritime center with those of the Americas, not only by its relics and souvenirs of the ancient civilization before the time of Columbus, but also by its exhibition of the modern historical and artistic progress as well as of the latest conquests of the Americas in all fields of civilized activity.

Closing Remarks

There being no further business to come before the meeting, several of the foreign delegates arose in turn to comment briefly on the character and success of the Congress. Complimentary remarks were made specifically on the generally excellent quality of the papers presented, on the service of the Organization Committee, whose labors had been so greatly handicapped by the recent death of Doctor P. E Goddard, the original General Secretary, and on the facilities as well as the entertainments afforded by local institutions concerned. Among the speakers was Professor Albrecht Penck, who chose the occasion to present a Diploma of Honorary Membership in the Geographical Society of Berlin to President Franz Boas.

FINAL REPORT OF THE SECRETARY[1]

The Secretary made several final announcements and extended an invitation to those interested to attend the Extra or Post-Session Meeting at 2:30 P. M., to hear several papers to be presented by the Mexican delegates.

The Secretary also read for the information of the members of the Congress the following statistics relating to the session:—

Nations represented by membership			33
Governments represented by delegates			22
Institutions represented:	Foreign	48	
	American	40	Total 88
Members enrolled:	Foreign	226	
	American	328	Total 554
Members present:	Foreign	59	
	American	146	Total 205
Scientific papers submitted:	Foreign	75	
	American	39	Total 114
Scientific papers read and discussed:	Foreign	54	
	American	47	Total 101

The XXIII Session of the International Congress of Americanists was then adjourned.

---

[1] In accordance with the new Amendment to Article 14 of the Statutes, notice is hereby given that the complete and detailed Minutes and other records of the XXIII International Congress of Americanists have been placed for safe keeping in the office of the Department of Anthropology, American Museum of Natural History, New York City.—N. C. Nelson, General Secretary.

In accordance with the further Amendment of Art. 14, the published Proceedings (one volume) have been placed on sale with G. E. Stechert & Co., 31 East 10th St., New York City, who also maintain branches at 16 Rue de Conde, Paris; 2 Star Yard, Carey St. W. C. 2, London; and Hospital Str. 10, Leipzig.—N. C. Nelson, for the Publishing Committee.

PAPERS PRESENTED TO THE CONGRESS

ARCHAEOLOGY

CULTURAL RELATIONS BETWEEN NORTH AND SOUTH AMERICA

By A. L. Kroeber

When I received the invitation of the Organization Committee to speak on Cultural Relations of North and South America, I accepted with a sense of responsibility. This feeling grew stronger as the time of preparation of the address drew nearer. The breadth of the topic became oppressive; and I decided to limit myself, first to the higher native cultures, and, on further consideration, to the relations between their two culminations in Mexico-Guatemala and Peru. Even here, however, I felt hesitant; until it seemed best to deal most specifically with that area with which alone I can claim to be well acquainted at first hand, namely Peru. I hope therefore it is with your sanction that I commence with a review of what is known about the prehistory of that country, and then examine the possible impingements between it and Mexico from the point of view of a Peruvianist. In this way I shall be able to begin with that part of the evidence which is most concrete and reliable to myself; and consideration of generalizations and broad possibilities will be deferred until the end.

I acknowledge in this connection my debt to Max Uhle and Julio Tello. From Uhle, in personal association many years ago, I first learned of the problems and methods of Peruvian archaeology; and subsequently profited by working over and over his accurately recorded collections deposited at the University of California. It was this stimulus that took me to Peru. There I was encouraged and helped by Tello; and profited immeasurably by weeks of association and discussion with him in the Museo de Arqueologia Peruana in Lima, and other weeks, still more valuable, spent jointly in the field.

Peruvian Styles and their Pivots

Ancient Peru left no inscriptions and therefore no dates. No authentic imported specimens have been found which might serve as cross-ties with chronologically determined cultures elsewhere. An absolute dating of Peruvian prehistory is thus impossible at present. Only the relative succession of periods can as yet be investigated. In this investigation, stylistic relations, especially of pottery form and ornament, have furnished the chief evidence. Few stratifications have been discovered: the total number, as recently compiled, does not exceed half a dozen;[1] which, in view of the considerable local diversity of style within the country, does not carry us far in the unraveling of its general time problems.

The analysis of style relations obviously involves a subjective element. This factor of subjectivity may be pretty effectively discounted, and results can be attained which meet the general approbation of scholars, where the problem involved is simple: confined to one district, for instance. When the problem is larger, so that several areas as well as several periods are concerned, such as for Peru as a whole, the prospects of a solution which will be incontestable or even generally convincing, are diminished, because stylistic similarities and differences are then logically interpretable as due either to space relations or to time relations. There has been some criticism, and more skepticism, of the interpretations of Peruvian culture history, on this very ground.

---

[1] *American Anthropologist*, n. s., vol. 28, pp. 331–351, 1926.

Fortunately, however, two facts are helpful. These are the prevalence over most of Peru of two essentially uniform, non-localized styles: that of the Incas and that associated with Tiahuanaco. The Inca style is determined by the purity of its occurrence in the environs of Cuzco, plus its occurrence in cemeteries in several parts of the country in association with Spanish objects. We therefore know well both what the style was, and that it was flourishing in 1534. This enables us to date as Late, that is, still more or less alive when the Spaniards came, a series of diverse local styles which are found associated in cemeteries, graves, and other remains with the Inca style. Such are Late Chimu, Late Chincha, Late Inca, probably Late Chancay.

The Tiahuanaco style in its unmistakable or classic form is not quite so widely spread as the Inca; but it is represented over the larger part of Peru. The ruined condition at the time of the Spanish conquest of its type station, as Tiahuanaco might be called in the language of European prehistory, indicates the priority of this style to the Inca one. This priority Uhle was able to confirm by a stratification at Pachacamac: an epoch-making discovery—not only because it was the first of its kind in the country, but even more because it marked the beginning of a realization both of the problem of Peruvian culture history and of a critical method of attacking it. In general, all subsequent discoveries have confirmed the separateness and priority of Tiahuanaco from Inca style.[2]

This gives two horizons traceable over most of Peru; and it is with reference to these two that all period assignment of Peruvian styles must be made, whether such assignment is implicit or explicit. If a style or phase of culture is abundantly represented by remains and these are never found in association with Tiahuanaco or Inca remains, this style must obviously fall temporarily between Tiahuanaco and Inca, or be anterior to Tiahuanaco. This means then that four major periods can be recognized: 1, pre-Tiahuanaco; 2, Tiahuanaco; 3, post-Tiahuanaco or pre-Inca or inter-Tiahuanaco-Inca; 4, Inca. Theoretically every Peruvian style must be assignable to one of these four grand divisions of time; and a number of them can already be definitely assigned. However intricate results sometimes seem to become as a result of local variations and sub-periodic variations or strains persisting into later periods, they are after all only parts of this simple basic scheme which rests on the two pivots of the pan-Peruvian Tiahuanaco and the pan-Peruvian Inca style.

Whether a given style under investigation is pre-Tiahuanco or post-Tiahuanaco is at first not always easy to decide. In the customary absence of discoveries of stratification, recourse must frankly be had to the weapon of stylistic relationship. If a given style, as represented by hundreds of objects, shows no specific similarities to Tiahuanaco, it may safely be interpreted as pre-Tiahuanaco—tentatively, of course, subject to correction of opinion by future evidence. If on the other hand a style shows specific resemblances to Tiahuanaco, while its prevailing characteristics are distinctive, it may, with perhaps some reservations, be set down as having come under the influence of Tiahuanaco and as being on the whole subsequent.

---

[2] Tello, as in *Pan-American Scientific Congress,* Washington, 1915, vol. 1, pp. 283–291, 1917, sometimes unites the two, but apparently only in contrast to earlier periods.

STYLES AT NAZCA AS EXEMPLIFICATION

This method was used with success by Uhle in solving the problem of the Ica and Nazca styles. Both these styles occur in nearly equal abundance in both the valleys. It happened that the name of the valley of Ica came to be applied to one of the styles, that of Nazca to the other. In both valleys, also, there occur both Tiahuanaco and Inca remains. The question was, as between the Nazca and Ica styles, which was pre- and which post-Tiahuanaco. Uhle saw that the "Nazca" wares, at least in their fullest and most characteristic development, were as free from Tiahuanaco as from Inca resemblances. He therefore interpreted them as pre-Tiahuanaco, and for this reason called the style Proto-Nazca. One may, as I do, prefer the term Early Nazca, or simply Nazca; but the fact of its antecedence to Tiahuanaco is not thereby questioned.

The "Ica" style, on the other hand, is sometimes found with designs showing unmistakable affinity to Tiahuanaco, and at other times with Inca traits, or actually in juxtaposition in the same grave with Inca-style objects. It must therefore be post-Tiahuanaco. Uhle rightly went farther, when he found that in certain cemeteries there occurred only Ica ware with Tiahuanaco resemblances, and in other cemeteries only Ica ware with Inca ones: he considered the one Ica series earlier than the other. We can call them Middle Ica and Later Ica. Middle Ica, although in the main a distinctive style, comprises a certain number of vessels bearing Tiahuanaco alongside of Ica designs. Late Ica, on the other hand, similarly mixes or conjoins Inca and Ica motives, but no longer carries specific Tiahuanaco influences. The preponderant ingredient of both Middle and Late Ica, its native or local design strain, is also not quite identical in the two phases. Late Ica is more highly and rigidly patterned: its scope has contracted and become more sharply defined. Its geometrically repetitive tendency is carried farther than that of Middle Ica. It uses only three colors—red, white, and black. Middle Ica, on the contrary, sometimes adds a fourth, gray or occasionally yellow; and this color is employed also by Tiahuanaco.[3] The internal analysis of the style, subjectively tinged though this be, thus leads to the same result as the more objective comparison with the two pivotal pan-Peruvian styles.

An analogous though less complete method may be used for the resolution of the pre-Tiahuanaco Nazca style into its earlier and later phases. Museum collections of Nazca ware normally have come without data. Objects belonging to its several phases have therefore usually been commingled as they first became available to scientific study in institutions. Tello, who enjoyed the opportunity of a visit to Nazca about fifteen years ago, was quick to distinguish the two principal phases and to recognize that they occurred in separate cemeteries. He named them, at the meeting of this Congress in Washington, Pre-Nazca and Nazca.[4]

---

[3] Kroeber and Strong, *University of California Publications in American Archaeology and Ethnology,* vol. 21, pp. 95–133, 1924, have distinguished I and II phases of both Middle and Late Ica, but without insistence that each phase necessarily represents a separate period (p. 117).

I was led to make the same distinction by the following circumstance. The Peruvian collections in my charge at the University of California contained the material assembled by Uhle at both Ica and Nazca—the first collections of consequence from either valley to find their way into a scientific institution. Now Uhle's Nazca ware from Ica Valley was strikingly homogeneous; but his Nazca ware from Nazca Valley was conspicuously more variegated, even though still in the general Nazca manner. The homogeneous lot from Ica he had obtained through his own careful and recorded diggings at a few small sites. The more varied lot from Nazca he had secured, through force of circumstances, largely from local collectors or pot-hunters, so that a variety of unknown sites in the valley was represented. Calling the homogeneous lot from Ica, style Nazca A, Gayton and I were able to segregate the mixed lot from Nazca Valley into style Nazca A and style Nazca B.[5] The former was the more somber and severe, the latter more bright and flamboyant in manner. Gayton was able to demonstrate the objective validity of each of the two styles by a statistical correlation. Shapes assumed as characteristic of A were shown normally to bear designs characteristic of A, and so on. Statistics however could not determine whether A or B was the earlier. This question Gayton answered in favor of A, through pointing out that certain designs common to A and B showed in A a self-sufficient form, but in B a slightly variant form which was intelligible only as a further development or degeneration of their A form. This conclusion was the opposite of Tello's, whose Pre-Nazca variety corresponds to our B. Here then was an apparent impasse: lack of objective data forced subjective interpretations, which were contrary according to observer. The design sequence was actually read forward by one student, backward by another. It is this type of situation which makes the outsider, the non-specialist in the field, suspicious of all results in the area. Even the incontestable findings are likely to be viewed with doubt when they are presented interwoven with challenged interpretations.

There remains however another line of attack. A third variety of Nazca style, which I tentatively called Nazca Y, is a much simplified Nazca, and occurs sometimes in association on the same vessel with Highland designs of Tiahuanaco character. Nazca Y must accordingly be the final phase of Nazca, when this was being impinged on by Tiahuanaco influences. Now Y is more similar to B than to A. Nazca B is flamboyant, proliferating, flowing, rapid in its designs as compared with the relatively restrained, severe A. The terminal Y phase is simple in its designs to the point of degeneracy; but they contain some of the flamboyances, redundant extensions, and flowing quality of B. In short, Y, so far as it is still Nazca, is an abbreviated, cursive Nazca B. This necessitates placing B next to it; and A farthest away, at the beginning of the Nazca series.

---

[4] Published as cited in f. n. 2.

[5] *University of California Publications in American Archaeolgy and Ethnology,* vol. 24. pp. 1–46, 1927.

In 1926 I was able on behalf of Field Museum to spend three months in exploration at Nazca in company with my colleague Schenck and part of the time with Tello. No stratifications were discoverable, except one of the Late Ica style above Nazca ware. However, the field excavations showed isolated cemeteries containing pure style wares of not only Nazca A and B, but others which were consistently transitional, and still others which contained only Y in regular association with Tiahuanaco influences. The full series of styles and phases then is:—

Nazca A, the earliest; classical Nazca of stylistically heavy type.
Nazca AB or X, transition between this and next.
Nazca B, classical Nazca of stylistically flamboyant type.
Nazca Y, abbreviated, decadent Nazca B associated with Tiahuanaco elements.
Tiahuanaco, of so-called Epigonal variety, without Nazca elements.
Middle Ica, geometric, with some Tiahuanaco designs and colors.
Late Ica, more rigidly geometric, without Tiahuanaco elements, in some cemeteries without Inca elements.
Inca, that is, specific Cuzco, here always in association with Late Ica.

I have gone at some length into this case, local as it is, because the series is the longest continuous one yet determined in Peru, possibly the oldest in absolute time, almost certainly as old as any yet resolved; especially, however, because it illustrates the method initiated by Uhle and the point to which it can be applied beyond his first findings in proportion as new evidence becomes accessible. The essential point of this method is that it not only discriminates styles and phases of styles, but that it depends on associations and lack of associations. The use of styles as material is not necessarily a fatal detriment from the point of view of objectivity, even though the conceptualization of a style contain a subjective factor. After all, the whole edifice of European prehistoric archaeology is reared on concepts of styles like Chellean, Mousterian, Magdalenian, Capsian; and that these are expressed in flint instead of pottery is nothing in their favor. The styles are validated as objective historic realities by their associations and non-associations. If Chellean objects occur always with Chellean ones, and Mousterian with Mousterian, in the same region, we have two distinct styles which can only be interpreted as falling into two periods. If Chellean sometimes came associated with Mousterian, we should recognize that the two periods overlapped; if they were normally associated, the problem would be to explain the presence of two styles or strains in one period. Stratifications may clinch the argument of sequence; they are not indispensable for a reliable interpretation. In the Nazca-Ica area we are fortunate in possessing abundant material and an unusual number of styles and style phases which resemble each other and intergrade in such a way as to allow of only one reasonable interpretation of their sequence, with the last one falling into the beginning of historic time. We might correctly *guess* this sequence if we had only the specimens without excavation data; it is the data as to *associations* of the objects that yield the *proof*. Progress in the scientific archaeology of Peru is directly dependent on the exact and authentic recording of the objects associated in each site or cemetery and especially in each grave.

NAZCA CULTURE AND AGE

What now is the inventory of our earliest Nazca culture, the one here called Nazca A? There was made a highly-developed polychrome pottery utilizing up to six and seven colors applied in elaborate and distinctive designs. Associated with this pottery is a little worked gold; probably no copper—certainly no important use of it; no silver. Textiles are exceedingly fine, with successfully ambitious needle embroideries in place of the tapestries characteristic of the Tiahuanaco and Inca periods. Techniques are varied and skilful. Both wool and cotton are used. This means that the coastal valleys of Nazca and Ica maintained regular trade with the highlands from which alone they could derive their llama and alpaca wool. It means further that these animals were already domesticated in the highlands. The wild guanaco and vicuña could hardly have furnished a large enough supply of wool to allow of a steady export on which the coast could build up its stable and refined weaving industry. That the weaving was done on the coast is shown by the fact that embroidered designs match the characteristic Nazca pottery designs. Along with the local cotton there were grown maize, pallar or Lima beans in abundance, and probably most the cultivated plants familiar from Peruvian economy of Inca times. Building was in hand-made adobes, Tello's odontiform, of various rounded or conical shapes, never quadrilateral. Only small pyramidal structures were reared of these adobes; but hills or bluffs were worked over into huge terraces, especially on their riverward sides, which were faced with laid adobes. So far as known at present, this is the most southerly extension in America of the practice of building or simulating large pyramids. There is no trace of bows; the dart and spear thrower were the principal weapon. The Pan's pipe was used. The cult of taking and preserving human heads was highly developed and probably possessed social as well as magico-religious significance. Heads were regularly deformed by a variant of the so-called Aymara method.

It is clear that we have here, in this as yet earliest known cultural manifestation of the area, a civilization which is already typically Peruvian. It is not a beginning out of which Peruvian culture later fashioned itself. It is essentially characteristic Peruvian civilization already formed, in of course the phase of its day and district. What preceded it? What were its formative stages? The answer is a complete blank. For three months we searched and found never a trace. For all we know, the Nazca A people descended from the Sierra, or arrived in ships, or worked their way along the coast; or they were in Nazca long before and gradually evolved their civilization on the spot but in such a way as to baffle the archaeologist looking for records of its formative phases. To choose between these alternatives would be guessing. We can only say that the elevated hinterland of Nazca-Ica has as yet yielded nothing that suggests the specific Nazca culture; and both north and south along the Coast the culture soon fades out. Uhle found an allied culture, as yet undescribed, in the valleys of Acarí and Chala next to the south. Tello has recently discovered another related variant at Paracas in Pisco, the adjoining valley on the north. The next valley north, Chincha, has some Nazca-like remains, from which Uhle was able to retrieve a meager yield of fragmentary specimens. Beyond, in Cañete and Mala, I and Tello respectively have discovered sherds showing Nazca relations, though of Nazca B or Y type rather than the earliest A, and without being able to find the cemeteries or structures to which they belonged. Here even the last faint direct traces end. It is clear that the Nazca culture not only enters our ken abruptly in time, but that it was circumscribed in space. It is a localized culture of unknown origins.

How old is its earliest known form? There is no evidence bearing on its absolute age. Uhle estimates that it began about the beginning of the Christian era, roughly fifteen hundred years before Pizarro. It seems as good a guess as any that could be made; but is nothing to match against Maya chronology, which, though its conversions into our time system differ, has at least a basis to argue from. Tello estimates the apogee of the local styles of Peru, such as Nazca, as falling between 800 and 1150.[6] This would presumably apply to the later Nazca. The earlier Nazca, what in my terminology is Nazca A, would therefore be somewhat earlier, but perhaps later than in Uhle's scheme. This is also too reasonable an estimate to quarrel with. My impressions from the field are that a thousand years are not an excessive minimum and two thousand not an excessive maximum duration within which the whole observed sequence of styles and periods at Nazca-Ica could have taken place.

NORTH AND CENTRAL COAST AND HIGHLAND OF PERU

It may be worth while to summarize the situation in other parts of Peru as it compares with Nazca-Ica.

On the northern coast, in the Chimu area, Uhle succeeded by his explorations at Moche, the only ones yet recorded in print for this area, in distinguishing pre-Tiahuanaco, Tiahuanaco, and post-Tiahuanaco. The Tiahuanaco ware here is more mixed with alien elements than at Nazca, as might be expected from the greater distance from the southern highland. It separates a Proto or Early or Red Chimu from a Late and prevailingly Black Chimu, which at certain sites is found, like Late Ica, associated with Inca forms and designs. The Early and Late Chimu have a good deal more in common than Early Ica (as Nazca might be called) and Later Ica have in common. The Tiahuanaco period in the north therefore represents a temporary interruption of a local current of development rather than an influence which killed one style and initiated a radically new one, as in the south. Tello has shown that Early Chimu contains a small percentage of ware done in the style of the sculptures of Chavín de Huántar in Marañon drainage. He argues from this the priority of Chavín, and apparently the derivation of Early Chimu from Chavín. This may be so, but does not necessarily follow. All that is sure in the present state of knowledge is that Early Chimu and Chavín were contemporaneous at least to the extent of overlapping. Both are fully formed styles: at least Early Chimu, like Early Nazca, is without known antecedents.

The Early Chimu culture cannot yet be placed in time with reference to Early Nazca. It is only clear that they are both pre-Tiahuanaco. Early Chimu used both copper and gold abundantly, and cast them. The textile art is not ascertained. Adobes are quadrangular and form or tool made. The tallest pyramids in Peru were reared by the Early Chimu. The faces of these are steep, the terraces narrow. Often there are approaches by ramps or inclined causeways. Early Chimu may have begun somewhat later than Early Nazca. This is suggested by the more advanced development of both metallurgy and architecture. On the other hand, these arts may have had earlier beginnings in the Chimu area than at Nazca, particularly if their origin is due to irradiations from somewhere north of Peru. It is therefore necessary to regard the question of the respective antiquity of Early Chimu and Early Nazca as still open.

---

[6] *Introducción a la Historia Antigua del Perú*, 1922.

As regards the possible derivation of Chimu culture from the north and ultimately from Central America, one fact must be remembered. The early Chimu style has so far been found only in the southerly half of the Chimu area, in the valleys of Santa, Virú, Moche, and Chicama. The northerly Chimu valleys, Pacasmayo, Eten, Lambayeque, Leche, Piura, seem to contain only remains of Late Chimu type. I was unable to discover even traces of anything else on a reconnaissance made for the purpose; and there appears to be in the museums of the world no authentically located specimen from the northerly tract except in Late Chimu style. This means that the Chimu culture as a whole first appears in the southerly Chimu valleys. It may have developed there from unknown antecedents; it may have descended from the highland about Chavin and the Callejón de Huaylas, as Tello believes; or have been landed from ships; it evidently did not make its way landward along the coast from the north.

On the other hand, some of the Tiahuanaco period ware of the Chimu area is associated with pottery that points to Ecuadorean connections: three-legged bowls, with dull color and inaccurate or hasty treatment of design. I have called this strain Cursive Tripod. It is probable that exploration which is sufficiently extensive, and which accurately records associations, will resolve both the Early Chimu and the Tiahuanaco Chimu into several phases and place these in sequence.

At Ancon and Supe, Uhle determined his famous primitive fishing cultures. These occur in separate sites containing much shell refuse. The burials are meager; the pottery is heavy and simple in shape, rarely painted, usually incised. Uhle sees some resemblance in the incised designs to Nazca painted designs, which I cannot see; and he equates this central fishing culture with the early phases of Nazca in time. This may be true, but is not based on evidence. We merely know that the culture is distinct from the other cultures of the central coast: so distinct, and so simple, that it is presumably early; but how early, we have as yet no means of knowing. It may be half a millenium earlier or later than Nazca. Tello doubts altogether its antiquity. I have examined the primitive site at Ancon and Uhle's collections from it, and have little doubt that they represent something more than the remains of a fisherman's caste or social phase in a Late culture. Everything is distinctive enough to warrant the setting up of a separate culture; and this is evidently pre-Tiahuanaco. More cannot yet be affirmed with safety. The resemblances to the Archaic of the Valley of Mexico, which Spinden has stressed,[7] are extremely interesting, but so vague as to weigh little toward establishing a specific connection. Incised ornament and crudely made clay figurines are widespread generalized features which occur in many other parts of the hemisphere. It is a long way from growing maize in the highlands of Mexico to fishing and shell gathering on the coast of central Peru, environmentally as well as in distance. Besides, the primitive sites at Supe contain

---

[7] Ancient Civilizations of Mexico and Central America, *Handbook Series No. 3, American Museum of Natural History,* New York, 1922, p. 59, 61.

Auchenia bones, presumably llama, which suggest that the domestication of this animal had already taken place in the highland. The shellmound culture is apparently early; but how early, we can only say when it can be positively related to other cultures of Peru. Until then, relating it to Mexico is premature.

In the valley of Lima, Uhle isolated a Proto or Early Lima culture, with pyramids of cubical but hand-made adobes. On the basis of certain stylistic resemblances of the pottery, he derives this Early Lima culture from Nazca. The resemblances are indubitable, but few; they apply to a late Nazca, phase Y; and they are outnumbered by resemblances to highland[8] shapes and designs of more or less Tiahuanaco type. This culture, in which Señor Jijón y Caamaño and I have independently excavated, may therefore be set down as of general Tiahuanaco era; probably early in this era, while a few terminal Nazca influences still persisted.

In Chancay Uhle found two types of pottery distinct from the classical black-and-white Chancay ware, which is post-Tiahuanaco. The two types occurred at the same site, which contained no black-and-white. One type was a simple redware with uncharacteristic ornament in white. The other was a three-color ware with different shapes and designs, some of them late Nazca-like. Most vessels of this type were broken. Uhle's interpretation is that an earlier cemetery of a culture derived from Nazca was re-used by a later, decadent people who made a simple white-on-red ware of local type. He does not give his facts in enough detail to prove his thesis. The two types may therefore be contemporary cultural strains commingling in one population.[9] The indicated period would seem to be late pre-Tiahuanaco.

Tello has made important explorations about the upper Santa, including Aija, Recuay, and other points in the Callejón de Huaylas, and Chavín de Huántar. The value of this work is evident from the selected material he has published in *Inca*. Its objective utilization in culture-historical reconstruction, however, will be fully possible only when his ascertained associations of the several types of material in the area are made a matter of record. His interpretation gives priority to the culture of Chavin; first, in an archaic phase represented by crude pottery found by him in and about the Callejon, though not at Chavin itself; and, second, in a classical phase represented by the sculptures of Chavin and by pottery of the well-known style of Recuay. He seems to place both these phases before Tiahuanaco, which, like Early Nazca and Early Chimu, he derives from irradiations out of the Chavin culture. The incontestable Chavin element in Early Chimu has already been mentioned. Tello's placing of Chavin before Nazca he fortifies by recent extremely interesting discoveries made by him at Paracas, in Pisco Valley on the south-central coast. Here he found, besides the common post-Tiahuanaco culture of the general region, two distinct but related cultures at separate sites. Both show clear Nazca resemblances; and both also Chavin affiliations. In one of the cultures the Chavin element predominates, in the other the Nazca strain. Tello puts the former earliest; the Paracas culture with stronger Nazca ingredient next; and appears inclined, if I understand him rightly, to derive the Nazca culture of Nazca from this second Paracas culture, and therefore ultimately from Chavin. This is a tenable view; but, as just said, it can only pass beyond the status of opinion through the putting on record of the complete associational data. Perhaps the most immediate need of Peruvian archaeology is the full publication of Tello's discoveries at Chavin and Paracas.

---

[8] Gayton, *University of California Publications in American Archaeology and Ethnology*, vol. 21, pp. 305–329, 1927.

[9] Kroeber, in same, vol. 21, pp. 265–304, 1926.

For most of the highland, data are almost lacking. For Cuzco, the Inca style seems the only one attested.[10] Bingham's collection from Machu Picchu furnishes an excellent type example of this style in its purity.[11] The Titicaca basin, including Tiahuanaco itself, has yielded both Inca and Tiahuanaco wares. About the margins of the basin, there were crudish local styles of Tiahuanaco affinities.[12] From Arequipa, half-way down the Sierra, there comes a heavy, somber ware which seems also to be a variant of Tiahuanaco. Other regions of the highland are represented only by pieces or sporadic collections, which generally show a fairly uniform ceramic manner, not very highly characterized, but in the general style of Epigonal. This term was originally coined by Uhle to denote a somewhat crude, slovenly, or imperfect variety of the Tiahuanaco style which he encountered at Pachacamac and elsewhere, and then considered as a debased successor of Tiahuanaco, whence the name. Various considerations, however, have gradually made it appear that Tiahuanaco and Epigonal do not in the main represent respectively the earlier and later phases, but that the two are more or less concurrent finer and poorer phases of the same style. Epigonal is the more common and widespread, possibly somewhat earlier, form of a generic highland style of some duration; Tiahuanaco, an esthetically more developed, classical specialization of this style, first characteristic perhaps of a certain area. This is Uhle's own present view, in which Jijón, Tello, Strong, and I more or less concur. Technically, therefore, ''Epigonal'' would have been a more correct term than ''Tiahuanaco'' through the preceding pages; ''Tiahuanacoid'' is perhaps better still; ''Tiahuanaco'' has been employed merely because most familiar to non-Peruvianists.

Summary of Known Culture History of Peru

Let us summarize the findings for Peru as a whole. In three separate districts, Chimu, Chavin, and Nazca, we find as many distinct cultures, of marked individualization and high degree of artistic achievement, suddenly coming into our view at the opening of the known part of the record. They appear full-blown: their antecedents on the spot or elsewhere have not been discovered. The general basis of the cultures is the same: intensive agriculture, the llama, pyramidal architecture on a large scale, at least the beginnings of metallurgy, certainly in one and perhaps in all a remarkable textile art. Their esthetic styles, however, are markedly different; so much so that one style cannot safely be derived from the other; and at other points, too, the three cultures differ in form and in part in content. Moreover, they are all definitely localized; narrowly localized, so far as we know now. Between their areas, we know as yet only the primitive-type fishing cultures of the central coast, which are outside any sequence and therefore undated; and cultures like those of Early Chancay, Early Lima, and Early Paracas, which seem more or less influenced by Nazca and perhaps Chavin. Then comes the Tiahuanacoid wave from somewhere in the highland, giving us our first sure common horizon. It interrupts the Chimu development, extinguishes Nazca, apparently makes Chavin over pretty thoroughly. In the highland, this Tiahuanacoid set of influences seems generally to have continued for a considerable time, and in certain remoter parts it was perhaps still active at the time of Pizarro. On the coast, in an alien habitat, it spent itself sooner, and new styles, the post-Tiahuanaco ones of Late Chimu, Black-and-white Chancay, Late Chincha, Middle and Late Ica, arose, which more and more worked off the Tiahuanacoid influences and went their own, largely independent ways of localized development. This was a time of dense populations, of large structures in some regions, of form or tool made adobes, of tapestry weaving, increasing use of metals, employment of the balance and the quipu, disuse of the spear-thrower, adoption of the habit of simple occipital head flattening. Esthetically it was a time of contraction. Realism of representation disappeared in most areas, geometric ornament became usual, the color scheme in ceramic decoration shrank to three colors or two colors or uniform black, correct and pleasing elegance reigned in place of the earlier creative imagination. Then, shortly before the discovery, came the Inca conquest, which has made itself felt everywhere in the archaeological remains, but, nowhere on the coast at least, had succeeded in breaking up the local styles: Inca style was only succeeding in commingling with local style.

---

[10] Uhle, Max, *Proceedings, Seventeenth International Congress of Americanists*, Buenos Aires, 1910, 302–353, 1912, figures a few vessels which he interprets, plausibly, as proto-Inca.

[11] *American Anthropologist*, N. S., vol. 17, pp. 257–271, 1915.

[12] Collections exhibited in American Museum of Natural History.

POSSIBLE MEXICAN RESEMBLANCES

With this picture of Peruvian prehistory before us, let us see what we can find to the north, especially in Mexico, to connect with it either in specific detail or general resemblance.

TO NAZCA

The Nazca culture made tall, cylindrical, whitish vases which somewhat suggest certain Maya ones, such as those which Gann has figured from British Honduras.[13] Nazca uses the interlocked fish or serpent pattern in complementary colors, which recurs in the Cuicatlan region of Oaxaca.[14] This pattern, in spite of considerable regional difference, is so highly specialized that it may be reasonable to assume connection for its North and South American occurrences. However, it is definitely Nazca B, that is, late Nazca, or at most the transitional Nazca AB (X); it is absent from the earliest Nazca A. The same is true of the cylindrical vases. As a matter of fact, the angular interlocking fish pattern in two complementary colors is of generic textile design character, and seems rather out of keeping in the general style of Nazca, which is curvilinear and polychrome; it looks like an alien element injected into it. But if this injection came from Mexico, it entered a style and a culture already fully formed in all essential characteristics in the Nazca A period; and the problem of the origin of the culture is therefore no nearer solution. If we reverse the situation, it is difficult to imagine the localized Nazca culture reaching Mexico, when only small remnants of it were able to work their way up the Peruvian coast as far as Lima and Chancay. The pattern may well have traveled at some time from Mexico to Peru or vice versa; but it evidently traveled as an element, and is therefore as yet no index of general cultural connection or influencing.

---

[13] *Bulletin 64, Bureau of American Ethnology,* Washington, 1918, Pls. 23–28.

[14] Seler, E., *Gesammelte Abhandlungen,* vol. 3, 1908, p. 351, and Joyce, T. A., *South American Archaeology,* 1912, Fig. 14.

To Chimu

As regards early Chimu, its realistic pottery modeling has been brought into relation with that of Oaxaca. Perhaps there is a connection; but the shapes of vessels and the manners of the styles are highly individualized as between the two areas, and their distribution well localized in each continent. It must be remembered also that Early Chimu is confined to the more distant southern half of the Chimu area. This would not matter if one called sea communications into play; but such invocation is as yet unevidenced and speculative. The legendary north Peruvian tradition of arrival of a population by sea refers to Lambayeque, which lies in the part of the Chimu area where Early Chimu culture did not exist.

For the same reason it is difficult to evaluate with confidence the seeming resemblances of Early Chimu pyramids to Mexico: steep sides, narrow terraces, ramp approach. Late Chimu, which extends geographically nearer Mexico, built relatively lower pyramids whose large tops were used as cemeteries—an un-Mexican feature.

That the Tiahuanaco period evidently brought into the Chimu coastland some degree of highland Ecuadorean influence has already been mentioned. To be exact, it cannot be affirmed at present whether this was a case of specific irradiations southward from Ecuador, or a flow toward the coast of a North Peruvian-Ecuadorian highland phase of the general Tiahuanacoid culture.

To Chavin and Recuay

As regards Chavin, Joyce and Uhle long ago recognized a stylistic affinity of the sculptured Raimondi stone from this site to the figures painted on Nazca pottery. The stone also has Tiahuanacoid resemblances. Joyce therefore regards it as a product of the reaction of Nazca art on that of Tiahuanaco. Uhle also holds that Nazca influenced Chavin. Tello believes the contrary. I shall not try to add my opinion, but will present two facts. The first is that those features of the Raimondi stone which are specifically Nazca-like, namely, the multiplication of faces and the tentacle-like curling-over of the ends of the rays, are Nazca B. They are not found in Nazca A. Whichever way the influence flowed, it is therefore between Chavin and later Nazca only.

Secondly, the major monuments of Chavin seem to belong to two styles.[15] I call the Raimondi stone style "N," on account of its Nazca resemblances. I designate as "M" the style of the sculptured monoliths found and published in *Inca* by Tello.[16] These seem to me to bear at least a superficial resemblance to Maya sculptures. Uhle and Jijón feel the same way. Tello, indeed, is inclined to minimize the difference between N and M, between Raimondi's discoveries and his own. It is true that there are common features; but in view of several students' seeing more Maya than Nazca similarities in the Chavin M sculptures, it seems important that trained Mexicanists pass an opinion of these monoliths. The resemblances may be wholly outward, in the general habitus of the styles, their manner of handling lines; but a detailed analysis would be worth while.

---

[15] *Field Museum, Anthropological Memoirs,* vol. 2, p. 37, 1926.

[16] Vol. 1, Pls. 1, 2, 3, 4, Figs. 72, 74.

The classic Recuay style of pottery, which is found in the Callejon across the Sierra Blanca from Chavin, and between which and the Chavin style Tello has shown connections,[17] carries designs which are prevailingly in negative painting. It has been pointed out by Jijón, Lothrop, and others that negative painting or lost-color ware is characteristic also of certain styles of Ecuador and Central America. It is doubtful how much weight should be attached to this coincidence. Simple negative painting—painting the background instead of the design—is technologically different from the wax-melting process of "lost color." We know that Athenian vases changed from black-figured or positive painting to red-figured or negative between 550 and 500 B. C. The same sort of internal change might have occurred independently in several American areas at one time or another. Wax-painting, on the other hand, is a specific process, and would almost certainly have to be accepted as a diffusion. The Recuay ware looks as if it were done with wax and not merely by painting the background, to judge by the edges of its designs; but an unqualified finding by an expert familiar with the process is desirable. The next point in order will be the positive placing of the Recuay style in the Peruvian sequence. Tello has shown that it looks Chavin-derived. It has Epigonal resemblances but no specific Tiahuanaco ones. It seems therefore late pre-Tiahuanaco or early Tiahuanaco. Whatever its age, one fact should be significant: no lost color or distinctly negative-design style is known from farther south in Peru than Recuay.

Nicaragua and Mexican Archaic

To check from the point of view of the outside, I have gone repeatedly over Lothrop's two splendidly illustrated volumes[18] on Nicaraguan and Costa Rican pottery, in order to note Peruvian resemblances. The net result was slender. There is one specific design common to the two areas: what I call the step-fret.[19] This occurs both simply and in reciprocal interlocking. I believe that we are justified in considering this a probable case of diffusion, like the complementary interlocked fish or serpent design already discussed. From where the diffusion was carried out, and when, is much more doubtful. Speaking approximately, the step-fret is pan-Peruvian, and both early and late. It occurs, in its simple form, in Early Chimu and Late Chimu; in its reciprocal form, in Nazca, beginning with the earliest or A phase. If brought into the country, it must then have been imported early. Spinden does reconstruct it, in a somewhat altered arrangement of parts, and on the basis of pottery figurine representations, as a

---

[17] *Inca*, vol. 1, 1923.

[18] *Museum of the American Indian, Heye Foundation*, 1926.

[19] A two or three arm fret springing from a right-angled triangle whose hypothenuse is replaced by a stepped line.

Mexican "Archaic" textile design; but the figurines are from the Jalisco-Tepic region, and of Archaic "horizon," in Spinden's terminology, that is, Archaic in general style only, and quite possibly late in absolute time.[20]

For the rest, I was able to note in Lothrop's figures only certain general stylistic resemblances, especially in the Nicoya polychrome ware. These similarities are all to the Epigonal or Northern Cursive Tripod phases of the Tiahuanaco style. These generic resemblances thus point to a definitely later Peruvian period than the one specific design correspondence of the step-fret. I am therefore inclined to consider them superficial and fortuitous.[21]

Lothrop himself seems to lean toward the possibility of a Central American-Peruvian connection. The Peruvian vessels in Lima which he selected as most similar to Central American ones, were in almost all cases, he says, designated as Early by Tello.

Spinden's extension of the Mexican Archaic horizon to the mouth of the Amazon and to the primitive fishing culture of Ancon, appears to be little more than a sweeping generalization or fertile suggestion which the future may prove partly or largely right, but which cannot be validated by present evidence. Relatively crude pottery decorated by incisions is not a sufficiently definite feature on which to build a connection across a gap of thousands of miles. One specific and frequent Mexican Archaic trait is lacking at Ancon and Supe: the tripod bowl. As to the figurines from Ancon, only a handful of fragmentary ones have been discovered.[22] Some of these are crude enough to be Mexican Archaic; in two, eyes and mouth are made simply by indentating with a stick. The headdresses too might more easily be Mexican Archaic than might the headdresses on supposedly later figurines from the central Peruvian coast. However, most the little figures are not flat-backed, like the Mexican ones, but round; one is hollow; mostly they are smoked blackish; and one has its incisions over-painted in several colors. All in all, one is left with a sense of vagueness about the similarity. Perhaps yes; perhaps no; but unproved and unprovable, would seem to be a reasonable verdict. If this attitude appear unduly negativistic, I have brought with me from California the specimens in question and shall welcome the judgment of members of the Congress.

Theories of Rivet and Uhle

I pass to another ambitious and more complex theory, that of Rivet as promulgated at the Göteborg session of this Congress.[23] He distinguishes eight migrations as having contributed to the culture of western South America. Six of these are supposed to have reached Peru or emanated from it. The second wave, according to Rivet, originated in eastern South America and spread to Peru and Mexico, carrying the spear-thrower, labret, Pan's pipe, and trophy heads. It reached Peru in the period of Early Nazca, Lima, and Chimu. The fourth wave carried tripod bowls, gold working, maize, and millstones. This emanated from Central America, perhaps corresponding to the Mexican Archaic, incorporated Chibcha elements, and reached Peru in the terminal phase of Early Chimu and Nazca, during the period of Early Recuay, and at the beginning of the Tiahuanaco epoch. The fifth wave was Aymara, of Tiahuanaco civilization, with copper and later bronze; the seventh, Quichua and Inca.

---

[20] Work cited, Fig. 16.

[21] The strongest cases are those shown in Lothrop's Pls. 30, 32, 33, 34, 93, 144, Fig. 105. Less suggestive are Pls. 14, 23, 26, 27, 59, 67, 68, 72, Figs. 51, 112; weaker still, Pls. 39, 47, 50. The black ware, Pl. 106, recalls post-Tiahuanaco of the central coast; the drums, Pl. 134, quero-shaped pottery vessels of the Titicaca basin.

[22] Uhle, Die Muschelhügel von Ancon, *Proceedings, Eighteenth International Congress of Americanists,* London, 1912, pp. 22–45, Pl. 1, 1913; Strong, *University of California Publications in American Archaeology and Ethnology,* vol. 21, 1925, p. 154, Fig. 5, Pl. 48.

[23] Les Eléments Constitutifs des Civilisations du Nord-Ouest et de l'Ouest Sud-americain, *Compte-Rendu du Congrès International des Americanistes,* XXI^e Session, Deuxième Partie, Göteborg, 1925, pp. 1–20.

This scheme is difficult to criticize, partly on account of its elaborateness, partly because in spite of its range it deals only with selected culture elements. American agriculture as a whole, for instance, is not considered. We may, however, examine some of the specific Peruvian implications of the hypothesis. It is true that the spear-thrower, Pan's pipe, and trophy heads of the postulated second wave are well represented in the Early Nazca culture. But so are the gold and maize supposed to have been brought in from the north by the fourth wave. Again, elaborate agriculture with irrigation, adobe terracing, a high grade textile art, are characteristic of Early Nazca. Are we to imagine that these basic traits were also brought in by Brazilian tribes whose descendants and successors have lost the same arts? Such an assumption would be a violent one. But if the fundamental arts of farming, building, and weaving were already established on the Peruvian coast by Early Nazca time, why need we believe that special items like the spear-thrower, Pan's pipe, and head-cult were imported? General culture history precedent would rather favor the contrary probability that the diffusion had been from the higher to the lower people; and it is clear that even the earliest Nazca culture yet known was richer than any historic or prehistoric culture of which we have record in eastern South America. Rivet's hypothesis seems too largely gratuitous, and its specific applications to Peru fit the facts unsatisfactorily.[24]

Uhle's extra-Peruvian[25] views I approach with diffidence. As is well known, having firmly established the foundations of Peruvian archaeology, he turned northward and began to see relations with Ecuador, with Marajó, with Central America and the Maya, then with the Totonac and Toltec, and finally, at the Göteborg Congress,[26] with the Pueblos and the Mound-builders of the Lower Mississippi valley. His arguments are difficult to follow; sometimes because the similarities which he dwells on are less patent to others than to himself; mainly, because the special resemblances are woven into a network of broader relations whose basic scheme of organization is never set forth explicitly so that it may first be conceived as a whole and then have its parts tested against the evidence. It is well to recognize that there is one important difference between Uhle's work in Peru and that in the hemispheric field. In the more limited area, he operated with stylistic resemblances indeed, and the recognition of these no doubt proceeded from intuitions; but his findings were supported by the irrefutable evidence of associations or non-associations of objects and styles. In his general American theories, this buttress of associational evidence is of necessity almost wholly lacking. What credence these theories win therefore depends on the strength with which the proposed similarities appeal to others. As the underlying scheme grows more complicated with the addition of each newly suggested far-flung relation, the reader becomes more bewildered, more dubious and reluctant to follow. I have faith that the soundness of intuition which enabled Uhle to make a beginning of organization in the previous chaos of Peruvian archaeology, did not altogether desert him when he expanded beyond the confines of Peru. But he should realize that intuition alone is not likely to gain many scientific converts; that evidence possessing the quality of his Peruvian associational evidence is extremely difficult to secure in the larger field; that many of the workers on whose results he builds have not even tried to secure such evidence; and that under the circumstances his case would best be helped by a concise, systematic, perhaps tabular presentation of the essentials of his views, undistracted by argument. The views could then at least be judged as a whole with greater justice to himself.

---

[24] An inference derivable from Rivet's explanation is that Nazca was earlier than Mexican Archaic!

[25] *Boletín de la Academia Nacional de Historia*, Quito, vol. 1, pp. 44–56, 1920; vol. 4, pp. 1–6, 205–241, 1922; vol. 6, pp. 87–92, 1923; vol. 7, pp. 1–33, 1923.

[26] Pp. 673–698, 1925.

The Common Basis in Mexico and Peru

All the foregoing should not be construed as a hesitation to accept the fundamental unity of Mexican and Peruvian civilization, in fact of all the cultures of Middle America in the larger ethnic sense of that term. There is too much in common to believe otherwise: the economic basis of life, a whole series of cultivated plants, the textile, ceramic, and metallurgical arts, the type of clothing, architecture, the quality of artistic achievement, the building of states. As against this basic common element, it matters little that Mexico grew cacao and the agave, Peru the potato and peanut, that Mexico alone developed lime mortar and cement, a day-count calendar, writing and paper, Peru wool spinning and the balance. Many Mexican peoples, the Maya and Tarasca for instance, differ almost as much among themselves.

The specific historical problem in the premises is twofold. First, to define the culture constituents common to Mexico and Peru but wanting in the intermediate regions. Second, to determine the elements evidencing a specific connection between Mexico and Peru, and the period or manner of their appearance in both countries.

The first of these questions soon answers itself. A review shows almost no elements common to Mexico and Peru and confined to them. Bronze might perhaps be so cited; and pyramidal or walled architecture in masonry or adobes. This last, however, holds relatively rather than absolutely. Central America, Colombia, Ecuador indeed show few structures strictly comparable to those of Mexico and Peru; but mounds correspond to pyramids, grave walls and paved paths to stone buildings. In fact the general cultural relation may be described as of this order: Mexico and Peru, where they are alike, differ from the intervening regions not in possessing culture material that is lacking there, but in having carried the degree of its development farther. Architecture is more advanced, conquest empires larger, pottery more highly polychrome, modeling more successful when it attempts realism, esthetic achievements finer. This means in short that, from Mexico to Peru, culture had attained to the continuous level of a plateau so far as its ingredients were concerned, and that the cultural peaks of Mexico in one hemisphere, and Peru in the other, represented not so much additional cultural material shared by the two, as a finer form or more intensive organization or expression of the common Middle American material. The true inventive increments of Mexico and Peru, like calendar and writing, balance and bronze, llama and potato, are almost throughout characteristic of one or the other alone, not common to the two.

This picture in its totality partly answers the second half of our question, namely, as to when and how the specific connections occurred. In the main they no doubt occurred when maize and beans and cotton, loom weaving and textile clothing, metal working and building in stone, human sacrifice and the royal litter, were transmitted from their points of origin, wherever those may have been, to diffuse more or less continuously through Middle America. We can assume that the concepts of the feathered and the double-headed serpent;[27] the myth of the departing bearded culture institutor and that of the revolt of utensils against their human masters;[28] the designs of the step-fret and interlocking fish, had a history similar to that of these major culture constituents. In certain areas of the whole tract, one or the other of such elements may have been refused acceptance, or been taken up only to be dropped again; in others they may have flourished, but have been lost to our knowledge. Many items of culture no doubt remained localized, others restricted to a province or two. Those that spread at all, tended to spread throughout the whole region between the lake of Tezcoco and the lake of Titicaca, without favoring either of the two more intensive cultural clusters in Mexico and Peru.

TIME OF INTERRELATIONS

This leaves the "when" of our question; and here the general answer, on the basis of the more specific examinations in the first part of this paper, must be that the diffusion on the whole took place relatively early in the history of Middle America, but that our archaeological records cover in the main only the latter part of the story. We can with fair reliability date known Maya history back about two thousand years; we can reasonably estimate the Mexican Archaic as somewhat older, the most ancient known Peruvian local cultures perhaps as a little more recent. In each case, the culture meets us full blown. The Mexican Archaic culture already had maize and painted tripod pottery, adobe and stone structures, perhaps loom weaving; the Maya, its day-count and art; Nazca, gold and fine pottery and sumptuous embroideries. Not that there was no progress after these beginnings, and that it need prove permanently impossible to trace any Middle American internal diffusions or influencings subsequent to the birth of Christ. But it is clear that we know as yet only the concluding chapters of the full story, and those very imperfectly; and from these broken chapters alone we are not entitled to expect the reconstruction of the entire history.

---

[27] Röck, *International Congress of Americanists,* Hague, 1924, 200, 1926.

[28] Krickeberg, *Schmidt Festschrift,* 1928, 378.

Sweeping attempts to this end are likely to be premature and self-defeating; the time has hardly come for broad and valid schemes of the whole of American prehistory.

In short, we have in Mexico and Peru as yet only a few fairly continuous vistas that carry us back perhaps to the time of Christ. These vistas show most of the generalized common features already established in both countries; also a few special traits like certain decorative designs. There is, until now, no specific connection positively provable as having taken place in these last two thousand years. Of what lies beyond, anterior, we have so far only the most fragmentary glimpses; so fragmentary and limited that schemes built upon them are of necessity guesses.

When we reflect that but twenty-eight years ago, in 1900, the Mexican Archaic was wholly unknown; the exacter Mayan chronological correlations in their infancy and the Old and New Maya epochs not yet formulated; Peruvian history only just carried back to Tiahuanaco, Early and Late Chimu undistinguished, the great arts of Nazca and Chavin undiscovered—when we reflect on the progress since then, we should realize how much unsuspected knowledge the next twenty-eight years are likely to bring us in this field.

University of California,
Berkeley, California.

WANN KAMEN DIE INDIANER NACH NORDAMERIKA?

Von Albrecht Penck

SOLANGE wir eine einheitliche Wurzel des Menschengeschlechtes annehmen, suchen wir dessen Ursprung in der Alten Welt, und die Beringstrasse erscheint uns als der einzig mögliche Weg der Einwanderung der nordamerikanischen Urbevölkerung. Die Meeresstrasse überbrückt sich alljährlich mit Eis, sie ist ausserdem seicht und kann bei einer geringen Minderung der Meerwassermenge oder geringer Erhebung des Landes trocken gelegt werden. Aber der Weiterweg nach Nordamerika ist, worauf Steinmann besonders hingewiesen hat, während der Eiszeit verschlossen gewesen. Damals reichte die grosse Vergletscherung der Hudsonsbai-Länder bis an den Fuss der westlichen Cordilleren und verschmolz hier mit deren eigenen Gletschern, die sich auf der anderen Seite bis in den Pazifischen Ozean erstreckten. Eine derartige Eismasse musste jedwelchen Verkehr zwischen dem nordwestlichen Alaska, das seinerseits eisfrei geblieben war, und dem übrigen Nordamerika entschieden hindern. Es bleiben also für die Einwanderung des Menschen in Nordamerika nur Interglazialzeiten und die Postglazialzeit.

Neuere Untersuchungen, welche Gerard de Geer in Nordeuropa ausgeführt und in Nordamerika angeregt hat, haben greifbaren Anhalt für die Schnelligkeit des Eisrückzuges hier wie da ergeben. Er betrug jährlich 100 bis 200 m. und erheischte in Europa vom Süden Schwedens bis zum Zerfall der zusammenhängenden Vergletscherung in einzelne Gletscher siebentausend Jahre. Dazu gesellen sich weitere neuntausend Jahre der eigentlichen gletscherarmen Postglazial-Zeit sowie eine Anzahl von tausend Jahren, die das Eis brauchte, um von Norddeutschland nach Schweden zurückzugehen. So kommt man auf eine Dauer von rund zwanzig- bis fünfundzwanzigtausend Jahre für die gesamte seit dem Maximum der letzten Vergletscherung verstrichene Zeit, nämlich für die Spätglazial-Zeit des Eisrückzuges und die Postglazial-Zeit, während welcher die Gletscher nicht grösser, sondern eher kleiner waren als heute.

Zu etwas grösseren Zahlen kommt Antevs für den Eisrückzug in Nordamerika, während sich aus dem Rückschreiten der Niagara-Fälle auf eine mehr den de Geer'schen Zahlen entsprechende Zeitdauer schliessen lässt. Damit ist auch die Maximaldauer der Zeit für die Einwanderung des Menschen in Nordamerika nach dem Maximum der letzten Vergletscherung gegeben. Der wahrscheinliche Weg dieser Einwanderung liegt im Osten der Cordilleren und wurde geöffnet, als die von den Hudsonsbai-Ländern ausgehende Eismasse sich loslöste von jener der Cordilleren. Hier in diesen Gebieten etwa am Mackenzie sind die ältesten Spuren der Einwanderung der amerikanischen Bevölkerung zu gewärtigen, wenn sie lediglich nach der letzten Vergletscherung stattfand. Funde, welchen diesen Weg der Einwanderung erweisen würden, liegen meines Wissens nicht vor, doch sind die in Rede stehenden Gebiete noch wenig erforscht.

Wer mit einer Einwanderung des Menschen in Nordamerika ausschliesslich nach der letzten Eiszeit rechnet, muss annehmen, dass die weitgehende physische Akklimatisierung und ethnographischen Differenzierungen der Indianer in ganz Amerika in höchstens fünfundzwanzigtausend Jahren sich vollzogen haben. Man vergegenwärtige sich, was das bedeutet. Bewohner der arktischen Tundra, aus dem nordwestlichen Asien über die Beringstrasse nach Alaska gekommen, müssen in die grossen Waldgebiete eindringen, welche sich südlich der Tundra erstreckten und heute noch erstrecken. Von hier ausgehend müssen sie sich in den Steppengebieten der Mitte und des Südens von Nordamerika daheim machen. Sie müssen dann in die Wüsten im Norden von Mexico eindringen, dann müssen sie herabsteigen in die Urwaldgebiete, die sich in Mittelamerika zwischen beiden Ozeanen erstrecken, um dann hinaufzusteigen auf die Paramos der Cordilleren. Hier können sie allerdings wohl rascher vorwärts dringen, aber Menschen, die in Urwaldgebieten heimisch geworden sind, vollziehen einen solchen Anstieg ausserordentlich schwer, denn er erheischt eine ganz andere physische Anpassung an das Klima. Von dem Hochlande der Anden endlich müssen die Menschen heruntersteigen wieder in die wüstenhaften Flachländer von Argentinien und Patagonien, bis sie schliesslich in die Waldgebiete an der Südspitze Amerikas gelangen, wo wir heute die armseligen Yaghan treffen. Allerdings ist es nicht notwendig, dass eine solche grossartige Wanderung von Norden nach Süden unbedingt auf die Paramos hinaufführt, sie kann auch durch die Tiefländer östlich der südamerikanischen Cordilleren geschehen. Aber in den Waldgebieten des oberen Amazones ist das Wandern nur viel langsamer möglich als auf den waldarmen Paramos, und der Urwaldbewohner muss dann schliesslich doch in die Steppen und Wüsten Argentiniens und Patagoniens gelangen. Auch dies erheischt eine starke Anpassung, sowohl in körperlicher Hinsicht als auch in Bezug auf alles Geräte und das gesamte Leben.

Die Anpassungen der Indianer in den einzelnen physich-geographischen Regionen von Amerika sind heute vollständig vollzogen; das setzt überall eine lange Dauer der Bevölkerung voraus, und wenn wir uns vergegenwärtigen, dass zwischen Alaska und dem Feuerlande sechs bis acht Anpassungen vollzogen werden mussten, damit Naturvölker in langsamem Vordringen den weiten Weg zurücklegten, so entsteht wohl die Frage, ob fünfundzwanzigtausend Jahre dafür genügend sind. Konnte die Anpassung in jedem Klimagebiete in durchschnittlich 3500 bis 4000 Jahren, in 140–160 Generationen vollzogen werden? Wir haben wenig Daten, um die Zeit zu bestimmen, welche die Akklimatisierung von Völkern in bestimmten Klima-Gebieten erheischt. Wir sehen gegenwärtig, dass der Mensch nur eine sehr geringe Akklimatisationsfähigkeit besitzt. Die Tieflandbewohner der Tropen vertragen nicht das Hochlandklima daselbst und dessen Menschen erweisen sich als wenig widerstandsfähig in den niederen Gebieten. Bewohner hoher und höherer Breiten ertragen selbst das Klima gemässigter Zonen nur selten. Können Weisse zwar durch entsprechende Kleidung kalte Klimate ertragen, so widerstehen sie doch tropischer feuchter Hitze nicht und nur in halbtrockenen Ländern können sie in den Tropen leben. Viele halten deswegen eine weitgehende Akklimatisierung der Menschen für nicht möglich. Wir zweifeln daran nicht, halten aber grosse Zeiträume dafür erforderlich und aus diesem Grunde erachten wir fünfundzwanzigtausend

Jahre nicht für hinreichend für eine Akklimatisation von Arktikern erst im Wald, dann im Steppen- und Wüstenlande der gemässigten Breiten, dann im tropischen Regenwalde und auf den Hochländern der Tropen, in den Steppen und Wüsten der Südhemisphäre und schliesslich im feuchten kühlen Süden. Das alles müsste geschehen, damit Anwohner der Beringstrasse im Feuerlande heimisch werden. Wenn wir aber annehmen, dass Asiaten aus gemässigten Breiten Amerika bevölkerten, so brauchen wir noch eine Anpassung, nämlich an das arktische Klima, mehr.

Dazu kommt, dass für eine Wanderung vom äussersten Nordwesten Nordamerikas bis zur Südspitze Südamerikas keinerlei Veranlassung erkennbar ist. Grosse spontane Völkerwanderungen finden in der Regel in ein- und derselben Klimazone statt. Innerhalb der Tundra, innerhalb der Steppen und Wüsten gibt es rasche Bewegungen, langsame Verschiebungen geschehen im Walde, und an den grossen Waldgebieten machen Tundra- und Steppenbewohner meistens Halt. Nur wenn Ackerbauer den Wald roden, dringt ein Volk von aussen her in ihn ein, also in der nördlichen gemässigten Zone von dessen Südseite, nicht von dessen Nordseite aus. Der Tundrabewohner rodet den Wald nicht, er empfindet in ihm eine Hinderung seiner Beweglichkeit, und eine Erschwerung seines Lebens. Er meidet ihn. Grosse Wanderungen sind gewiss erfolgt, als sich mit dem Kommen und Schwinden der eiszeitlichen Gletscher auch die grossen Vegetationsgürtel der Nordhemisphäre äquatorwärts und wieder polwärts verschoben. An Stelle des im mittleren Europa und im östlichen Nordamerika geschwundenen Eises dehnt sich heute der gerodete Wald, aber in Nordostasien und in Alaska breitet sich auf dem Gebiete der zurückgegangenen Gletscher die Tundra; hier ist kein ähnlich grosser Lebensraum geschaffen, wie er weiter im Süden zur Siedlung gelockt hat. Hierher richtete sich kein solches ausgedehntes Nordwärtsrücken ganzer Völker, wie es in Europa in den letzten Jahrtausenden, in Nordamerika im letzten Jahrhundert geschehen ist. Kein Magnet hat in Nordostasien Völker an sich gezogen. Kein Menschenüberschuss kann von hier aus Wanderungen über die Beringstrasse veranlasst haben. Dass von diesen Einöden aus sich ein Menschenstrom ergoss, der einen Erdteil erfüllt, sich entgegen der dem sich zurückziehenden Eise erfolgenden Bewegung der Klimagürtel richtend, ist schwer zu begreifen. Wer eine Einwanderung des Menschen in Amerika seit Schwinden der letzten Vergletscherung annimmt, hat nicht nur mit der Überschreitung der Beringstrasse zu rechnen, sondern auch aufzuhellen, warum der Mensch, der dies getan hat, dann flugs eine Wanderung entgegen den natürlichen Verhältnissen antrat. Diese begünstigen eine Wanderung nach dem Norden, während er nach dem Süden zog. Was trieb ihn ins Unbekannte?

Viel eher lässt sich verstehen, dass beim Kommen einer Vergletscherung sich der Mensch in Nordamerika ausbreitete. Hatte er vorher die Beringstrasse überschritten und in einer milden Interglazialperiode Fuss gefasst im Nordwesten des Erdteiles, so drängte ihn nicht nur das herannahende Eis nach Süden, sondern er wanderte dahin mit seiner Umgebung. Er kam so in niedere Breiten. Hier gewährten dem Tundrabewohner die Gebirge nach Rückgang der Vergletscherung gleiche Lebensbedingungen. Auf sie zurückgezogen wurde er vom vordringenden Wald umringt und schliesslich rückten die Steppen an ihn heran. Diese boten ihm, der an das Herumschweifen im offenen Lande gewohnt war, alle Bewegungsfreiheit. Das Durchschreiten des nordischen Waldgürtels, das für primitive Völker ohne äussern Anlass eine grosse Schwierigkeit war, konnte also infolge von Klimaschwankungen geschehen, die den Menschen veranlassten, nach Süden auszuweichen, wo er, als der Zwang der Bewegung nachliess, zurückbleiben und sich dann spontan weiter verbreiten, von wo er aber auch dem zurückziehenden Eise nachfolgen konnte. Der Mechanismus der Verbreitung des Menschen in Amerika wird so verständlich, er findet in der nordsüdlichen Erstreckung der Cordilleren eine mächtige Förderung. Unter dem Einflusse einer Anzahl wechselnder Glazial- und Interglazialzeiten können wir die allmählich zu denkende Landnahme verstehen, nicht aber bloss unter der Annahme einer postglazialen Einwanderung.

Das Bild über die Kulturverteilung in den beiden Amerika, das Franz Boas auf dem internationalen Amerikanistenkongress zu Wien 1909 entworfen hat, stimmt nicht mit der letzten Annahme. Nicht der Nordwesten Nordamerikas ist das Verbreitungszentrum, sondern von Mittelamerika und den Antillen scheinen zwei Kulturströme nach Norden vorgedrungen zu sein. Das ist eine Bewegung, wie sie *nach* einer Eiszeit eintreten musste. Und wenn wir in Nordamerika im Nordwesten und in Südamerika im äussersten Süden typische Randvölker finden, so können wir deren Auftreten nur verstehen, wenn sich Völker in den beiden Amerika von der Mitte her ausdehnten. Hier liegen die Verbreitungszentren für Völker und Kulturen; das setzt voraus, dass hier Menschen bereits vorhanden waren, als sich die Vergletscherungen des Nordens und Südens zurückzogen, denen Menschen und Kulturen nachrückten. Bei den mannigfachen Beziehungen, welche die nordwestlichen Völker der amerikanischen Küste zu den isolierten Völkern Ostsibiriens gehabt zu haben scheinen, gewinnt die Vorstellung Raum, dass in postglazialen Zeiten, Menschen und Kulturen eher von Nordamerika zum äussersten Osten Asiens gelangt sind, als von dort nach Nordamerika. Erweist sich aber eine solche Vorstellung als richtig, dann müssen wir auf eine sehr alte, bereits in den Interglazialzeiten der Grossen Eiszeit erfolgte Einwanderung des Menschen in Amerika umsomehr schliessen, als die Annahme von dessen Erscheinen daselbst erst nach dem letzten Schwinden des Eises bei näherem Zusehen auf grosse Schwierigkeiten stösst.

Von einem vollen Verständnis der Verbreitungsmöglichkeiten des Menschen während des Wechsels von interglazialer und glazialer Zeiten in den beiden Amerika sind wir allerdings noch recht weit entfernt. Wir wissen namentlich nicht, wie sich die Vegetationsgürtel in den Tropen und an deren Grenzen verschoben. Aber mit Sicherheit lässt sich sagen, dass sie sehr tiefgreifende Verschiebungen erfahren haben. Anders können wir z.B. die Verbreitung der Trockenheit liebenden Kakteen nicht verstehen. Wir finden den baumhohen Säulenkaktus (Cereus) sowohl in Nordamerika und in Mittelamerika, namentlich in Mexico und Nicaragua, als auch an der Nordküste Südamerikas in den Llanos, wie auch endlich in Peru, Bolivien, und Argentinien. Aber dazwischen fehlt er. Es muss Zeiten gegeben haben, also die Gattung über den heute mit dichtem Urwald bedecktem Isthmus gelangen und die Hyläa Brasiliens umgehen konnte, als die Trockengebiete eine ganz andere Verbreitung hatten als heute. Ich habe ausgesprochen, dass auch sie während der Glazialzeiten südwärts verschoben gewesen seien. Aber ich verschliesse mich nicht den

Argumenten, welche für das Gegenteil sprechen. Hier bleibt noch ein weites Feld für paläoklimatische Forschungen, die den Schlüssel für die Aufhellung der Verbreitung des Menschen in den beiden Amerika geben werden; denn die Grenzen zwischen humiden und ariden Gebieten sind die Linien, längs derer sich der primitive Mensch am leichtesten bewegen kann. Hier ist er weder durch das menschenfeindliche Dickicht des Waldes, noch durch die Wasserlosigkeit der Wüste in der Bewegung gehindert. Hier kann er leicht jagen und sammeln. Erst auf einer höheren Kulturstufe, in der die Erfindung des Bootes gemacht ist, werden die wasserreichen Flüsse der Waldgebiete für die Bewegung des einzelnen Menschen und der Horde dienstbar.

Die Annahme, dass Amerika schon vor der letzten Vergletscherung, ja möglicherweise schon in der grossen Interglazialzeit vom Menschen betreten worden ist, steht im Einklang mit der starken ethnischen und linguistischen Zersplitterung der Indianerbevölkerung; denn dass Völker niederer Kultur ihre Sprachen besonders rasch veränderten, trifft gerade für Amerika nicht zu. Aber durch prähistorische Funde wird jene Annahme nicht hinreichend gestützt. Zwar fehlt es weder in Nord- noch in Südamerika an Werkzeugen vom Typus der paläolithischen Europas, aber es ist bekannt, dass die Indianer der Gegenwart oder jüngsten Vergangenheit solche herstellten. Langlebig sind die sogenannten paläolithischen Formen. Wie in Europa ist es auch in Amerika nicht zulässig, aus einem Manufakte oder selbst aus einer Gruppe von solchen auf deren Alter zu schliessen, höchstens darf man sagen, dass sie jünger als die ältesten datierbaren Funde sind. Die Funddatierung auf typologischer Grundlage bleibt immer unsicher, sie wird erst möglich, wenn eine anders geartete Chronologie vorliegt. Diese wird für das Alter des Menschengeschlechtes durch die Diluvialchronologie geliefert. Ausgedehnte Untersuchungen haben letztere im Herzen der Vereinigten Staaten festgestellt; die Aufeinanderfolge verschiedener Vergletscherungen ist klargelegt und recht enge Beziehungen zur Geschichte des Eiszeitalters im Umkreise der Alpen haben sich dabei ergeben. Aber nähere Beziehungen zum Alter des Menschen haben sich dabei nicht in gleicher Weise wie in Europa herausgestellt. Der Löss, welcher namentlich nördlich der Alpen so reiche Funde der jüngeren paläolithischen Kultur geliefert hat, hat im Mississippigebiet noch keine befriedigende Ausbeute ergeben; glaziale und interglaziale Schotter, die in Norddeutschland das Alter des Menschengeschlechtes mit Sicherheit bis vor den Beginn der vorletzten Vergletscherung zurückzuführen gestatten, haben am Delaware und in Ohio nur umstrittene Funde geliefert, und die Höhlen von Kentucky sowie der Appalachien gewährten nur Ausbeute der vor-columbianischen Indianer. Freilich, frühzeitig schon fand Lund in den Höhlen von Lagõa Santa in Brasilien fossile Menschenknochen in Gesellschaft von Knochen teilweise ausgestorbener Tiere. Aber die Fundberichte sind ziemlich dürftig; es ist durchaus geboten, neue Ausgrabungen vorzunehmen. Die Zweifel Hrdlička's am hohen Alter der Funde sind indes nicht unbedingt überzeugend.

Sicherlich kommen sowohl in Nordamerika wie auch in Südamerika bisweilen Reste vom Menschen in Gesellschaft von solchen ausgestorbener Tierarten vor, wie z.B. in einem der Asphaltteiche von La Brea in Los Angeles. Aber dann bleibt immer die Frage, ob der Mensch deswegen sehr alt ist, oder ob die Tiere sehr spät ausgestorben sind. Von den letzten Funden einschlägiger Art hörte ich bald nach meiner Ankunft in New York Juni 1928, und gern folgte ich der Einladung von Herrn Barnum Brown, welcher die Ausgrabungen in Folsom leitet, dieselben zu besichtigen.

Die Örtlichkeit liegt auf der Ostseite der auf 2700 m. Höhe aufsteigenden, basalt-gekrönten Plateaus, die sich zwischen Trinidad in Colorado und Raton in New Mexico vor die Rocky Mountains legen. Unter dem Basalte lagern fast söhlig marine Schichten der oberen Kreide und Kontinentale des unteren Eozäns. Beide bergen Kohle, die an zahlreichen Stellen ausgebeutet wird und die Veranlassung zu einer ausführlichen geologischen Beschreibung der Gegend gegeben haben.[1] Die 2500 m. hohe Johnson Mesa, östlich von Raton, ist der östlichste Ausläufer. Auf ihrer Ostseite liegt ihre Fundstelle an dem oberen Zuflusse des Cimarron Flusses unweit der Fahrstrasse von Raton nach Folsom in etwa 2100 m. Höhe.

Wir sind in einem ziemlich breiten Tale, im Bereiche der ober-kretazischen Pierre Schichten. Deutlich sind an den Flanken zwei Schotterterrassen, eine etwa 30 m., die obere etwa 60 m. über dem Flussbette, zu erkennen, beide ziehen sich weithin talabwärts gegen Folsom hin. Ich verfolgte sie, freundlichst von Herrn Harold Cook aus Denver geleitet, bis zu einer Stelle hin, wo sie die Oberfläche eines jungen in das Tal ergossenen Lavastromes abschneiden, der also älter ist als sie. Hier haben wir neben den Terrassen eine deutliche Talsohle, die sich verschmälernd talaufwärts zieht. Hier ist in ihr der wasserleere Bach einige Meter tief eingeschnitten und bildet einen typischen Arroyo, so wie es in der Gegend die Regel ist. Nahe der Sohle dieses Arroyo sind in mehreren Metern Tiefe Gebeine eines ausgestorbenen Bison gefunden worden, zugleich mit Pfeilspitzen aus Stein in einer hoch entwickelten Form.

An der Gleichaltrigkeit von Knochen und Pfeilspitzen kann nicht gezweifelt werden. Sie kommen mit einander vor unter solchen Umständen, dass man glauben muss, die "Strecke" einer Jagd vor sich zu haben. Ebenso ist sicher, dass der Bison einer bisher unbekannten ausgestorbenen Art angehört (*Bison Taylori*); ein vollständiges Skelett ist im naturhistorischen Museum zu Denver ausgestellt. Es fragt sich nun, ob die Pfeilspitzen sehr alt sind, weil der Bison ausgestorben ist, oder ob der Bison in verhältnismässig später Zeit ausstarb, weil die Pfeilspitzen recht vollkommener Art sind. Auf diese beiden Fragen lässt sich aus der Vergesellschaftung von Knochen und Artefakten keine befriedigende Antwort geben. Wohl aber geben Untersuchungen an Ort und Stelle Anhaltspunkte für das geologische Alter beider.

Die Analogie der Fundstelle mit Vorkommnissen am Fusse deutscher Mittelgebirge ist eine schlagende: Da sehen wir häufig Schotterterrassen, die wir als diluviale zu bezeichnen pflegen, beiderseits der Sohlen von Tälern, deren lehmigen Boden wir als ein Produkt der geologischen Gegenwart, des Alluviums, auffassen. Nach amerikanischer Ausdruckweise hätten wir pleistozäne Schotterterrassen neben rezenten Ablagerungen. In der Tat trägt das Material des Talbodens, in den der Arroyo eingeschnitten ist, durchaus den Charakter der Adobe von New Mexico und Arizona, es ist lehmig, aber nicht so knetbar, wie unser an entsprechender Stelle auftretender Aulehm und erhält durch den Wechsel mehr oder weniger dunkler Lagen eine deutliche, horizontale Schichtung. So sieht man den Adobe weithin am Ostfusse der Rockies zwischen Las Vegas und Raton an den Wänden der in ihn eingeschnittenen Arroyos. Es ist die jüngste Ablagerung am Boden der Täler.

---

[1] Lee, Willis T., and Knowlton, F. H., Geology and Palaeontology of the Raton Mesa and other regions in Colorado and New Mexico, *U. S. Geological Survey, Professional Paper 101*, Washington, 1917.

Lee, Willis T., *Geological Atlas U. S. Geological Survey, No. 214, Raton-Brilliant-Koehler Folio*, 1922.

Ganz anders ist das Material der beiderseitigen Schotterterrassen an der Fundstelle. Es ist sandiger kiesiger Beschaffenheit. Unter den grösseren Geröllen spielen natürlich die Basalte der benachbarten Johnson Mesa eine grosse Rolle. Daneben fehlen aber nirgends Gerölle krystalliner Gesteine der Rocky Mountains. Ihr Auftreten überrascht, denn solche Gesteine stehen im oberen Cimarrongebiete nicht an; aber Gerölle von ihnen findet man da und dort auf der Johnson Mesa, und sie unterlagern den dortigen Basalt. Sie befinden sich auf sekundärer oder tertiärer Lagerstätte, und haben den Weg von den Rockies zur Fundstelle wahrscheinlich in mehreren, räumlich und zeitlich auseinanderliegenden Etappen zurückgelegt. An die Mitwirkung von Gletschern bei ihrem Transporte muss nicht gedacht werden. Aber aus dem Auftreten von Schotterterrassen neben einer lehmigen Talsohle ergibt sich, dass die Tätigkeit der Gerinne im oberen Cimarrongebiet einen ähnlichen Wechsel vollzogen hat, wie die Tätigkeit so mancher Flüsse am Fusse des Thüringer Waldes oder des Harzes oder des Riesengebirges. Er hängt bei uns mit dem Klimawechsel seit der Eiszeit zusammen. Während der Eiszeit wurden bei uns auch am Fusse von Gebirgen, welche keine eigenen Gletscher trugen, Schotter abgelagert, weil die Gebirge, über die Baumgrenze aufragend, stärker von dem abrinnenden Wasser abgetragen wurden als gegenwärtig, wo sie dagegen durch ihr Waldkleid geschützt sind. Dadurch erfolgte eine Überlastung der Gerinne mit Geschieben, diese blieben liegen, wo die Flüsse aus dem Gebirge heraustraten.

Eine ähnliche Annahme hat man wohl für die Sande und Schotter der Cimarron Terrassen zu machen. Die umrahmende Johnson Mesa blieb mit ihren 2500 m. erheblich unter der eiszeitlichen Schneegrenze, welche Herbert Louis in den benachbarten Rockies vielleicht etwas zu hoch in 3400 m. ansetzt.[2] Aber sie kam der damaligen oberen Baumgrenze nahe. Das abfliessende Wasser entfaltete daher eine starke abspülende Tätigkeit wie in den deutschen Mittelgebirgen, und entlud sich da wie hier seiner Geröll-Last in den flachen Tälern. Das geschah nicht nur am Ostfusse der Johnson Mesa, es erfolgte auch am Fusse der Raton Mesa zwischen Raton und Yankee und weithin erstrecken sich Schotterterrassen von Raton aus nordwärts im Railroad Canyon, dem die Eisenbahn nach Trinidad folgt. Der Gebirgsrand ist hier ein Denudationsrand, nicht geknüpft an eine tektonische Linie. Ausgeschlossen ist daher hier ebenso wie im oberen Cimarron-Gebiete, dass die Schotter infolge einer tektonischen Bewegung am Fusse einer aufsteigenden Scholle abgelagert worden seien, wie so zahlreiche Schotter am Fusse von Gebirgsketten des Fernen Westens. Sie sind Ablagerungen, entstanden unter klimatischen Verhältnissen, die von den heutigen in der Weise abwichen, wie die der Eiszeiten. Darauf gründen wir unsere Annahme, dass die Cimarron-Schotter-Terrassen, wenn sie auch nicht als fluvioglazial gelten können, doch zeitlich als Gebilde einer Eiszeit angesehen werden müssen. Ob die beiden um 30 m. aneinanderliegenden Terrassen zwei verschiedenen Eiszeiten oder nur einer einzigen angehören, kann einstweilen nicht entschieden werden. Es genügt, wahrscheinlich gemacht zu haben, dass die untere ein Äquivalent der letzten Eiszeit, der Würmeiszeit der Alpen, des Wisconsin von Nordamerika ist. Damit ist eine Altersbestimmung der Funde von Folsom nach oben gewonnen. Wir erachten sie für jünger als die letzte Vergletscherung, deren Rückgang vor zwanzig- bis fünfundzwanzigtausend Jahren begann. In den unteren Partien der Ablagerung der geologischen Gegenwart, des Adobe gelegen, datieren sie so weit zurück, als die geologische Gegenwart zurückreicht. Nimmt man an, dass letztere so weit zurückreicht, wie die Postglazialzeit in Skandinavien, so hat man die Funde für höchstens neuntausend Jahre alt zu halten. Jedenfalls sind sie erheblich jünger als die Schotterterrassen, die wir zwanzig- bis fünfundzwanzigtausend Jahre zurückdatierten, denn auf die Ablagerung der Schotter folgte eine Zeit, in der sie zerschnitten wurden, dann erst begann die Ablagerung des Adobe, in deren Anfang die Bisonjagd fällt, deren ''Strecke'' in umsichtiger Weise durch das Museum von Denver auszugraben und 1928 durch das American Museum of Natural History fortgesetzt wurde. Die angegebenen Jahreszahlen beanspruchen keine Zuverlässigkeit, sie sollen nur ungefähre Vorstellungen vermitteln. Streng genommen ist nur möglich, zu sagen, dass die Funde postglazial im engeren Sinne des Wortes sind, nicht pleistozän, sondern rezent.

---

[2] Die Verbreitung von Glazialformen im Westen der Vereinigten Staaten, *Zeitschrift für Geomorphologie,* II, 1927, Taf. IV.

Mit dieser geologischen Alterbestimmung steht die hochentwickelte Form der Pfeilspitzen im Einklang, und ihr widerspicht nicht das Auftreten eines ausgestorbenen Bison, denn das Aussterben von Tieren kann ja noch in jüngster geologischer Vergangenheit geschehen sein und ist vielfach erst kürzlich erfolgt. Für die Frage, wann der Mensch in Nordamerika eingewandert ist, bedeutet der Fund von Folsom nicht viel und kann nicht dazu verwendet werden, dessen Erscheinen schon für eine Interglazialzeit festzulegen. Dass er bereits in einer solchen eingewandert sei, ist eine Vermutung, die durch viele Wahrscheinlichkeitsgründe gestützt wird, die aber erst durch einschlägige Funde zur Gewissheit erhoben werden kann. Es ist kaum notwendig, die Aufmerksamkeit hierauf zu lenken. Der prähistorische Mensch steht in Nordamerika so im Vordergrunde des Interesses, dass berufene Anstalten wie das American Bureau of Ethnology vor allzu grossem Enthusiasmus warnen. Ihre konservative Haltung kann der Sache nur nützen. Aber es wäre verfehlt, wenn man aus dem bisherigen Fehlen eines interglazialen Paläolithikums in Amerika heute schon den Schluss ziehen wollte, dass die Neue Welt erst seit dem Schwinden der letzten Vergletscherung besiedelt worden wäre. Man darf nicht vergessen, dass erst in den letzten Jahrzehnten, seit Gewinnung einer Chronologie des Eiszeitalters, das hohe Alter des Menschengeschlechtes in Europa festgestellt worden ist.

FRIEDRICH WILHELMS UNIVERSITÄT,
BERLIN

DESARROLLO Y ORIGEN DE LAS CIVILIZACIONES AMERICANAS

Por Max Uhle

La cuestión del origen y desarrollo de las civilizaciones americanas merece una atención especial por dos circunstancias conexionadas con ellas: su separación de las del Mundo Antiguo, y su elevación en algunas partes del Continente a alturas comparables con las de las civilizaciones del otro Mundo.

Su explicación forma, por eso, un problema de tanto interés para su propio entendimiento, como para las leyes de desarrollo de civilizaciones del globo en general.

Por dos teorías diferentes el Mundo científico ha tratado de acercarse a la solución de este problema:—

1. Del desarrollo independiente de las civilizaciones de las diferentes partes del Continente, y
2. De su interdependencia en forma de un árbol genealógico una con otra, y reducción en sus últimas raices a una sola primeramente primitiva.

La segunda teoría implica de cierta manera la descendencia de la primera civilización de fuentes originales situadas fuera del Continente.

La cronología maya elaborada por conocidos americanistas de Norte América y del otro Mundo, como también el estudio comparativo de los antiguos cementerios peruanos en los últimos treinta años, han probado a la luz del día, que la situación encontrada por los primeros Conquistadores en el Continente fue el efecto de una evolución interior continuada incesantemente por numerosos millares de años.

La cronología maya, del tipo de una absoluta, comprende los primeros seis o siete siglos de nuestra era, llenados por la evolución del primer imperio maya; la relativa de las civilizaciones peruanas en sus partes más antiguas la alcanza, como se vé por el número crecido de civilizaciones que, por este lado, sucedieron una a otra; y, además, por el contingente extenso de paralelos entre detalles de las civilizaciones desarrolladas por ambos lados, completamente ininteligible sin la suposicíon de una contemporaneidad relativa de unas con otras.

La comparación detallada entre las civilizaciones del mismo periodo en los dos lados parecía demostrar relaciones aún más complicadas entre las civilizaciones respectivas, y así resultó, la teoría del completo parentesco de unas con otras, como también de la derivación de las primeras peruanas de las siempre más avanzadas del otro lado. Relaciones directas entre las posteriores peruanas con las posteriores centroamericanas y mexicanas, parece, no podían observarse, de modo que a un periodo de contacto entre las peruanas del primer tiempo y las contemporaneas centroamericanas habría sucedido otro de completa enajenación entre las de las dos partes seguido de esta manera hasta el fin de la historia anterior del Continente.

Se ha hecho el ensayo últimamente de contrarrestar esta teoría por otra más nueva, cuyo tenor sería el siguiente:—

"Por encontrarse los rasgos culturales comunes entre Perú y México-Guatemala también en la región intermedia, la cultura general del Centro de América debe haberse desarrollado, antes que la existencia de una diferenciación cualitativa común. En eso se basa la conclusión de que las culminaciones de cultura en México y Perú son desarrollos locales de una cultura común, pareciéndose de esta manera esencialmente la civilización maya con la civilización chimu en el horizonte de la arqueología."[1]

Cuestiones de esta naturaleza no se dejan, justamente, decidir por un simple golpe de vista, si tal o cual particularidad se encuentra más también en una que otra parte del Continente. Se necesita en todo un conocimiento profundo del tipo de las civilizaciones, y especialmente cierta familiaridad con la relatividad cronológica de los fenómenos uno a otro en ambos lados. Por la última teoría nada de eso parece haberse tomado en cuenta, y como varias del resto de las civilizaciones americanas muestran haber tenido en sus principios una historia semejante a las peruanas, el juicio sobre los origenes de estas últimas mucho tendrá que hacer también con la explicación de los origenes de las del resto. Inevitable parece, por eso, entrar aún aquí en la historia original de las civilizaciones peruanas.

Por concedida se toma de la nueva teoría la unidad de la base de varias de las más importantes civilizaciones del Continente. Observaciones de esta clase conducen a la cuestión sobre los origenes de las americanas en sus principios tan estrechamente entrelazadas una con otra, en general, y como raices enteramente separadas de civilizaciones de esta manera en el Continente parecen escasas, cabe preguntar, si no quizá todas las raices de las civilizaciones al fin tuvieron origenes por fuentes en otros Continentes.

Geográficamente presenta el Continente americano dos lados completamente diversos uno de otro. Al menos así era en sus tiempos antiguos.

El lado Este, abierto hacia el Oceano Atlántico, ofreció una faz para el desarrollo de civilizaciones relativamente estéril. El otro, por el Norte en correspondencia con el Continente asiatico vecino, estaba expuesto en todos los periodos a influencias ejercidas desde Asia sobre la Costa Pacífica americana.

Ya Profesor Otis T. Mason llamó la atención al hecho de que el uso de la estólica o atlatl fue extendido por las costas del Oceano Pacífico desde Micronesia hasta muy australes Pacíficas americanas.

Falta esta arma en la parte extrema Sur del Continente, adonde tampoco había llegado en el periodo del hombre más primitivo.

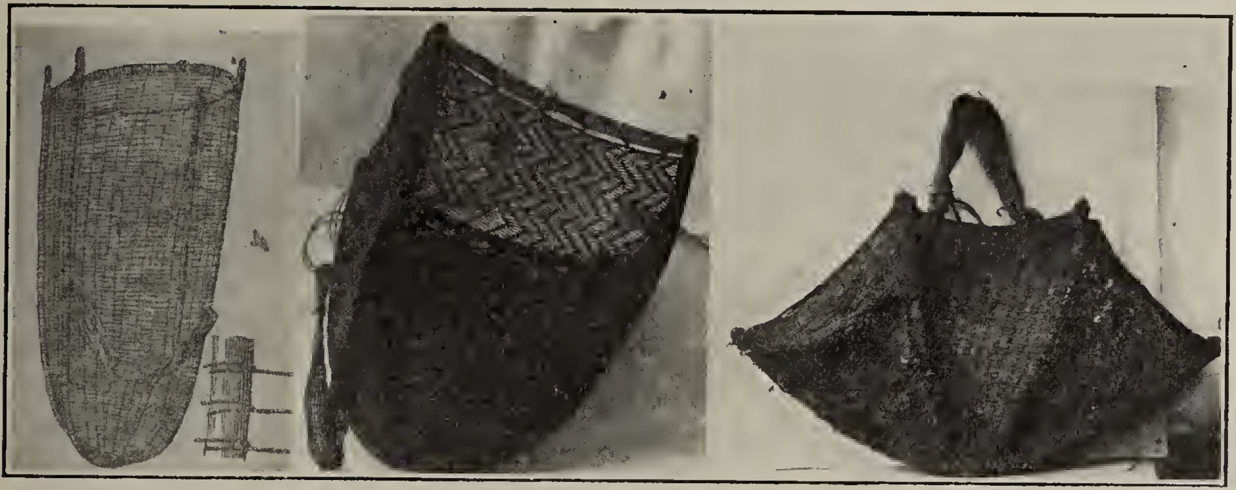
La estólica de Micronesia representa—según la expresión científica—un tipo hembra. Desde la región de los Gilyacos del Noreste de Asia hasta el Norte de Chile su tipo más antiguo era el bisexo. Este domina, casi como el exclusivo en la región de los Esquimales. Bisexo era el atlatl mexicano y el de otras partes del Oeste Norteamericano. Igualmente casi no hubo diferencias de tipo entre el atlatl antiguo de Coahuila del Norte de México y los de sepulturas Uros, del principio de nuestra era, de Arica y Pisagua en Chile. Los hallados en sepulturas de Colombia, Ecuador, y Perú de la región intermedia entre México y Chile, son todos de varios tipos masculinos, pero al mismo tiempo pertenecientes también a civilizaciones de origen más nuevo, de manera que, como derivados tampoco pueden formar una contradicción a los otros. A esos se parecen en varios respectos los de Flórida y del Río Xingú en el Brasil. Los de los Karajás del Xingú son por su forma casi idénticos con varios hallados en el Perú en el valle del Rimac. Los Karajás tampoco mismos parecen originarios de la región que habitan, y así es probable que también su forma del atlatl se había importado del Oeste.

---

[1] Kroeber, A. L., *Extracto de las Conferencias presentadas al 23 Congreso Internacional de Americanistas,* No. 48.

Sin los tipos desarrollados posteriormente la identidad del tipo general del arma desde el Asia Oriental hasta el Suroeste de América queda de esta manera perfecta.

Igualmente era la industria de canastas en sus principios un característico de la Costa Pacífica americana. Se extendía por el Oeste hasta partes interiores de Asia. Interrumpida entre la ciudad de México y el Sur del Perú (solo cerca de Manta hay también vestigios) tuvo, ya en la antiguedad, su continuación más al Sur desde Arica hasta el Noroeste de la Argentina. Todos los que conocen la frecuente interrupción de formas y tipos generales del Oeste, principiados en el Centro o Norte e interrumpidos en la parte media del Continente—para continuar más al Sur con el mismo carácter usual en el Norte—sabrán apreciar este fenómeno como uno de calidad completamente igual.



a *b* *c*

Fig. 1—bags: *a*, mojave; *b*, jivaros, ecuador; *c*, sepultura de pisagua, periodo de tiahuanaco.

La repetición de las palas anchas de madera encontradas por Fewkes en la Casa Grande de Arizona y repetidas en formas absolutamente iguales cerca de Ica en el Perú y en la región Atacameña de Chile, los canastos para llevar cargas por las espaldas, constituidos con dos o tres ramos doblados, entre los Utes, Pimas, y Jívaros (Fig. 1 b), como los de la las sepulturas de Pisagua e Iquique (Fig. 1 c)—mientras que los del Este presentan caracteres diferentes—el tipo técnico de tejidos de los Tarahumaras en México igual con el de tejidos de Pachacamac,[2] faltando los intermedios, forman otros ejemplos de la extensión de tipos Norteños por toda la Costa con interrupciones en el Centro.

Tales movimientos de tipos asiáticos a lo largo de la Costa Pacífica americana ya en tiempos anteriores indican el camino que tuvieron que seguir otros gérmenes útiles para el desarrollo de las civilizaciones.

Por los estudios de Boas y Ehrenreich tenemos un conocimiento exacto de la invasión del Continente por mitos asiáticos de la región extendida entre el Japón y Cochinchina. Se introdujeron estos mitos, según los estudios de Boas, en el interior del Continente Norteamericano por el Río Columbia. Por otro lado llama Ehrenreich principal atención a la extensión de sus influencias a lo largo de la Costa Pacífica americana, al menos hasta la central peruana.

---

[2] Pachacamac, pág. 44, fig. 57.

Estos habrían llegado, según la suposición de Ehrenreich, mucho después del principio de las civilizaciones. Pero en la forma americana de estos mitos se combina repetidamente un recuerdo del origen de las civilizaciones mismas con el fundamento asiático original, y como no es probable que mitos introducidos posteriormente hubiesen ejercido una fuerza retroactiva sobre recuerdos de acontecimientos ya terminados, lícito es suponer que varios del grupo estaban presentes ya en el Continente al tiempo del mismo principio de las civilizaciones.

Así existía en Guatemala el mito de un hombre y de una mujer que tuvieron tres hijos. Como de estos el primero sólo se entendía en obras de alfarería muy primitiva, sus dos hermanos más inteligentes le desterraron al Hades tomando sobre sí mismos la tarea de formar el Sol, las estrellas y las otras cosas del mundo. En Huarochiri el heroe del mito asiático, Pariakaka, erigía los diques usados en la agricultura.

Ideas sobre un mundo superior habitado por dioses, con otro correspondiente en el interior de la tierra, habrán tenido, aun en mitos de aparente origen indígena, una base forastera por su propia naturaleza. De este modo pueden mitos norteamericanos, como el de una cadena de flechas con que se unía el cielo con la tierra y el de los Jívaros de un hombre que trepando por una liana fue a conversar en el cielo con el rector del mundo, también haber tenido solo una base forastera. Existiendo ahora mitos de carácter tan igual tanto en Norte- como en Suramérica, sin que las tribus hubiesen cambiado de una parte del Continente a otra, es probable que las tribus de ambas categorías recibieron sus mitos de un centro común, que en tal caso apenas podría haber sido otro que la región centroamericana. Por eso se desarrollaron primero tales mitos en la región central americana, desterrados después a la periferia por el ascenso de religiones más complicadas.

Impresiona naturalmente le posesión de libros con caracteres escritos en papel de origen vegetal solo por Chinos y Mayas entre todos los pueblos más antiguos del mundo. En el Oeste tan altamente civilizado libros de esta clase estaban desconocidos por Egipcios, Griegos y Romanos, etc. hasta le edad media. Una evolución recorrida por la civilización centroamericana en pocos milenios desde la ínfima escala hasta la cima.

Y ahora el calendario maya. Su origen nunca se explicó satisfactoriamente, menos aún en él el origen del número trece. Originó el calendario maya de una cuenta por meses, según la palabra ''uinal'' derivado de la palabra maya ''u'', mes. Pero estos meses no eran nuestros meses de 30 días. El número 13 es el resto de otra cuenta anual por 13 meses, cada uno a 28 días, usada según ciertas noticias al lado de otras cuentas aún entre los Mayas. La cuenta por 13 meses, cada uno a 28 días, era la original en todo el Norte y Este de Asia. Según el Profesor Schiefner de Petersburgo contaban por esta las tribus siberianas. Igualmente cuenta el calendario oficial de los Chinos con 28 casas de luna, por las cuales el sol da la vuelta en el año. Aun los Hindus cuentan por estas 28 casas lunares, ocupando al mismo tiempo cada una más o menos 13 grados en la circunferencia del cielo.

Aquel calendario del Centro de América tuvo, por eso, también una fuente asiática, justificando de esta manera nuevamente la opinión de la enorme influencia ejercida por Asia en el fundamento de las civilizaciones.

Con la introducción del número 20, muy común en cuentas americanas, el calendario original se fracturó en una cuenta de 13 por 20 y otra de 104 días sueltas aparte. Mas con el repetido analisis de estos 104 en otros 5 por 20 y cuatro supernumerarios, y agregando los primeros a los 13 por 20, se pudo formar al fin el usual calendaria maya de los 18 meses por veinte.

Parece que con el fundamento forastero de su calendario jugaron los Mayas de manera tan invenciosa como caprichosa. La impresión que hace ese juego, al menos en los que quedan algo alejados de todo el sistema, apenas puede ser otra que la de la transformación continua de ornamentos, criados por una raza superior, no entendidos por otra inferior, y por eso cambiados hasta la invención de otra norma más congenial para la última.

Con sobrada razón se formaron, como se vé ahora, las primeras civilizaciones, y de estas las más importantes, por el lado Oeste del Continente. Ayudadas por influencias de origen forastera recorrieron de esta manera en pocos miles de años distancias de evolución que en favorecidas otras regiones del mundo necesitaron siempre un número de siglos más grande.

Vencieron de este modo las influencias asiáticas la inclinación natural de las tribus americanas, de quedar por el tiempo más grande estaciorarios en formas acostumbradas de vida. Explícase así también el hecho, repetidamente observado por imparciales, que la relativa semejanza con las civilizaciones asiáticas parece siempre más grande en las centroamericanas que en todas las otras del Continente.

Profesor Boas dió importancia en Gotenburgo al número mayor de puntos contradictorios en el carácter de las civilizaciones asiáticas y americanas en comparación con el número de sus puntos de semejanza. Pero, como se ha visto, algunas de las relaciones siempre existen. Y en cuanto a las instancias negativas que al parecer impiden relacionar unas con otras, no merecerían una ponderación tan exclusiva. También las antiguas civilizaciones suramericanas recibieron las influencias mayoides centroamericanos, al parecer, no obstante su continuo desconocimiento de la escritura tan prolijamente desarrollada en otra región.

Las civilizaciones asiáticas tienen su propio carácter, impartido por ellas, como se vé en parte a las americanas. El contraste formado de esta manera en América entre las de la parte media del Continente con el estado original conservado en los extremos reflejó, por consiguiente, solo la diversidad original del Continente del estado civilizado del Oeste.

Las civilizaciones americanas se parecen fundamentalmente una a otra en el cultivo del maíz, común a todas ellas.

Este cultivo se había extendido de México a las otras regiones del centro, y una de las primeras que de esta manera lo recibieron debe haber sido la peruana.

Según Spinden la forma moderna del maíz se derivó de una planta silvestre de caracteres originalmente muy diferentes. En la civilización protochimu del Perú, de los siglos cuarto y quinto de nuestra era la forma del maíz cultivado era ya la moderna. Sus impresiones a manera de moldes ya en alfarerías de aquel tiempo lo confirman. Mazorcas de tipo igual se han presentado también en sepulturas contemporaneas de la sierra ecuatoriana. Miles de años habrán precedido por eso, que produjeron tal cambio de la forma.

Al Este del Cuzco se cultiva aún, en ciertas Haciendas, una clase de maíz de tipo intermedio entre la planta silvestre y su última forma. Muestras de esa planta se han presentado en varias ocasiones aún en Lima. Representa el tipo una forma de maíz todavía a medio desarrollo por el cultivo, introducido, por eso, de México, cuando aun allá no había alcanzado todavía una mejor forma. Igualmente la civilización de México habrá estado en aquel tiempo todavía en sus primeros principios, y lo mismo no más puede haber sido entonces el caso también en el Perú por este tiempo. Tales fueron los principios de cultura tanto en México, como en el Perú, quizá más de mil años antes del principio de nuestra era, precedentes a todos los otros desarrollos.

Conforme está con principios de civilización tan antiguos por ambos lados el hallazgo de una bolsita de lana blanca con más o menos un kilo de semillas de Chenopodium quinoa en una sepultura Uro de Arica, de uno de los primeros siglos de nuestra era. El saquito con su contenido se conserva ahora en el Museo de Antropología y Etnología de Santiago, Chile. Repetidamente se han criticado las fechas atribuídas a tipos de civilización primitivos encontrados en el suelo peruano, como si al fijarlas, hubiesen servido únicamente aspectos generales de primitividad sin otros criterios de cronología de más peso. Por eso parece necesario aquí la exposición de los fundamentos de las fechas asignadas a aquellas sepulturas y al saquito de quinoa hallado en una de ellas.

Vestigios de la misma civilización Uro se han encontrado en una cueva próxima del mar cerca del Puerto de Pisagua, caracterizada también allá por el uso abundante de totora, en las formas más diferentes, también por la ausencia absoluta de toda clase de ornamentaciones. En un cementerio de otro periodo Uro, más arriba, fueron encontrados canastas de una industria ya muy desarrollada con ricas ornamentaciones, derivadas de motivos usuales en el estilo de Chavín, cinturas de hilos de algodón en hermosos y variados colores, además, al lado de tales restos de tipo ya muy avanzado, algunas bolsitas, tejidas de lana y algodón. con figuras de hombres, de serpientes, y de otras clases. Una de las bolsas se halla reproducida en: *Cronología y Origen de las Civilizaciones Argentinas* (Lám. 1). Las figuras de hombres se determinan cronológicamente, por mostrar ellas ya en la barriga la seña de la segunda boca, característica también del diseño del conocido relieve de Chavín, y en su vestido, fajas terminadas por cuellos de serpientes, características tanto de la misma obra de Chavín, como de la generalidad de figuras del estilo contemporaneo protochimu.

Correspondiendo, por eso, este segundo estilo Uro al tiempo del estilo protochimu y al contemporaneo de Chavín (paralelo también mismo a la segunda fase de Protonazca) natural es suponer que el estilo más primitivo de Arica, y de los restos paralelos de Pisagua fueron contemporaneos con la primera fase de Protonazca, sin ser probablemente aún más antiguos, por encontrarse en sus sepulturas también algunos tipos de momificaciones, principiados en el Perú, como parece, solo en el tiempo de Protonazca.

El saquito de lana con su buena porción de semillas de quinoa, de las sepulturas de Arica, debe haberse introducido en la costa de la sierra peruana o boliviana porque solo habitantes de aquella región fría podían proporcionar a

Uros este alimento serrano. En primeros siglos de nuestra era huba, por eso, en aquella sierra ya una cierta agricultura sistematizada, con plantas de carácter indígena, algún uso de tejidos de lana proporcionada a los habitantes por los animales de la clase Auchenia, que también probablemente ya estaban de cierta manera domesticados, ni habrán faltado, al lado de tales industrias, ensayos de alfarería.

En los mismos primeros siglos de nuestra era principiaron en la costa, con la civilización protonazca, las ricas alfarerías parecidas en muchos respectos a productos centroamericanos; pero indígenas de la sierra no se conocen todavía en este tiempo, de manera que queda problemático aún su uso, para este tiempo, de aquellos lugares. En los artefactos Uros de Arica no hay todavía los menores indicios del conocimiento de ornamentaciones en otros lugares, de manera que aun queda dudoso, si tales se usaron ya en la sierra vecina.

También en la costa del Perú los restos de alfarería del mismo tiempo, fuera de los que ya ostentan semejanzas mayoides, aun son del tipo más sencillo, como uno del Puerto de Supe, reproducido por Kroeber,[3] algunos parecidos de Chincha, en Kroeber, *The Uhle Collections from Chincha,* Lám. 20 (siete fragmentos solo ligeramente grabados), y uno de tipo idéntico hallado por Julio Tello en la Península de Parácas; algunos vasos de tipo muy sencillo, solo teñidos de rojo de Ancón[4] y otros del Puerto de Supe (fuera del lavado rojo decorados solo con lineas de puntos grabados)—no reproducidos en las publicaciones californianas. La decoración por puntos en los últimos vasos muestra semejanzas técnicas con la de la estólica Uro, reproducida en: *Arqueología de Arica y Tacna* (Lám. 10, Fig. ba).

Unir estos restos de alfarería primitive con otros de tipo adelantado, como los reproducidos por Kroeber, Moche y Supe[5] y otros de Ancón,[6] en una sola clase de alfarería primitiva peruana da una idea falsa de la base original de civilización de aquel país, porque los agregados ya muestran semejanzas con conocidos estilos mayoides de la región centroamericana, y se insinua así la posesión original de caracteres que deberían quedar mismos un objeto de critica, en vez de ayudar de esta manera a resolver la cuestión de las supuestas importaciones del Norte en contra.

Resulta de eso que hubo un cierto grado de agricultura, de domesticación de llamas y otros animales de la clase Auchenia, un cierto uso de tejidos, e igualmente principios de alfarería en todo el Perú con anterioridad a las civilizaciones que muestran manifiestas semejanzas con los productos de la región centroamericana, pero que no hay ningunas noticias claras sobre una mayor variedad de formas de alfarería, el uso de ornamentaciones desarrolladas, ningunas sobre el uso de figuras de barro, de construcciones firmes a manera de templos, etc.—en el Perú antecedente al periodo de notorios semejanzas con productos mayoides centroamericanos.

---

[3] The Uhle Pottery Collections from Moche and Supe, *University of California Publications in American Archaeology and Ethnology,* vol. 21, parts 5 and 6, 1925, Lám. 79, Fig. 1.

[4] The Uhle Pottery from Ancón, *University of California Publications in American Archaeology and Ethnology,* vol. 21, part 4, 1925, Lám. 48, Fig. f, h, i.

[5] Lam. 79, Fig. a–g, compare, l.c., pág. 155 y sig.

[6] Vea Strong, *The Uhle Pottery from Ancón,* pág. 155 y sig.

!Cuan diferente era la situación premayoide en toda la región centroamericana y mexicana! Debajo de capas antiquísimas de lava se encuentran ya variados tipos de cultura, productos de alfarería de muy diferentes formas, distintas clases de ornamentaciones, tambien la pintura de vasos en varios colores, figuras arcaicas de barro de varios tipos, y aun construcciones de piedra de varios pisos, como uno hallado por el Professor Cummings cerca de Cuicuilco en el valle de México a una profundidad de 12 metros debajo de una corriente de lava.[7]

Entre el grado de cultura exhibida en México antes de la entrada de civilizaciones del primer imperio maya, y el grado de civilización alcanzada en el Perú antes del conocimiento de ornamentos, formas y otros tipos de carácter mayoide individual, y de otros tipos bién desarrollados que generalmente los acompañan (como diferentes formas de botellas con un o dos tubos angostos)—y faltan en todo el periode premayoide peruano,—no cabe ninguna comparación. Una civilización ya bastante perfecta por un lado, y una que en mucho respecto rascaba aún en salvajismo por otro. La base que precedió la entrada de caracteres mayoides en México y en el Perú era, por eso, absolutamente diferente en los dos lados. No puede arguirse, por consiguiente, que de la misma base, anteriormente común e igual en México y el Perú, brotaron independientemente por ambos lados fenomenos semejantes como los mayoides centroamericanos e iguales de la tierra peruana.

Las naciones que habitaron México y el Perú eran también de origen y carácter diferente. Aun dándoles la misma base de cultura original, lo que como se ha visto no era el caso, siempre habrían sido imposibles,—ya por la diferencia natural de las índoles nacionales,—desarrollos e formas tan parecidas por ambos lados, como según la teoría de iguales productos de bases iguales se supone.

Por otro lado, semejante, y casi idéntico, fue, fuera de la identidad de los fenómenos mismos, el orden cronológico, en que,—aun siendo diferentes uno de otro en su proprio orden sucesivo,—aparecieron uno tras otro por ambos lados.

La evolución histórica suele ser individualmente diferente en cada pais una de otra. Pero en América sucede, que el movimiento de la cultura peruana, mientras duraba el primer desarrollo centroamericano maya, reflejaba exactamente las fases de evolución histórica y cultural de la región contemporanea centroamericana. Tal identidad en el carácter de la cultura por los dos lados puede haber sido únicamente un efecto de la participación directa de una de las partes en las eventualidades de desarrollo de la cultura de la otra. Solo la comparación promiscua de los fenómenos individuales pudo disimular pasajeramente este hecho y dar así la impresión de fenómenos producidos independientemente en forma igual por los dos lados. A la luz de la cronología desaparece este aspecto y queda la prueba de relaciones históricas íntimas entre los desarrollos absolutamente paralelos de los dos lados.

Al primer tipo de civilizaciones mayoides centroamericanos (la civilización de Cerro Montoso) corresponde en el Perú la civilización de Protonazca con numerosos detalles parecidos.

Productos posteriores por el lado centroamericano eran ciertas civilizaciones mayoides del Istmo, como la de la alfarería con el uso de la pintura negativa, y la del estilo "aligator",[8] igualmente una conocida civilización, paralela a la primera, de la Provincia de Guanacaste.

---

[7] Nuttall, Zelia, The Aztecs and their Predecessors in the Valley of Mexico, *Proceedings, American Philosophical Society*, vol. 65, no. 4, 1926, p. 248.

Muestran el carácter de un segundo periodo los monumentos de Copán, como los en mucho respecto parecidos, de origen zapoteca, de Monte Albán, igualmente ciertas alfarerías zapotecas reproducidas por Spinden, *Ancient Civilizations of Mexico and Central America,* 1a edic. (Lám. 25), sin duda alguna originarias del mismo periodo. Este periodo debe haberse distinguido por un prestigio especial del tipo zapoteca.

Finalizó el desarrollo de la cultura del primer imperio maya en monumentos como los de Palenque y otros unidos con ellos por el mismo carácter.

Repítense por el lado peruano, después de Protonazca I, todas estas fases en el mismo orden. Por ejemplo caracteres de las civilizaciones mayoides secundarias de la fase 1 en el tipo de la civilización más nueva de Chavín (repetición de la segunda boca en la barriga, cuellos de serpientes como apéndices en las extremidades de figuras humanas, ambas propias también del estilo istmeño del aligator).

En la civilización Protochimu, la segunda de las grandes civilizaciones peruanas, se nota la repetición del tipo de los monumentos de Copán en el tipo de las Huacas de Moche, diferentes de las precedentes del estilo Protonazca en la misma manera, como siguen en Centroamérica las de Copán a las de Tikal y parecidas sin necesidad lógica interior de esta forma de sucesión de los tipos.

El tipo de las alfarerías zapotecas, aparentemente del mismo tiempo, reaparece con muchos caracteres parecidos en las obras cerámicas del mismo periodo Protochimu.[9] La relación histórica entre los tipos y los precedentes faltaba también en este caso por los dos lados. Propio de las civilizaciones Protonazca II (contemporanea con Protochimu), Protochimu misma, Protolima, y de Chavín era también el ornamento de figuras de pescados entrelazados, también encontrado en la región zapoteca.[10] Un periode de sobrepujanza de caracteres zapotecas parece haber sucedido en el tiempo de la civilización Protochimu a anteriores más puramente mayoides por los dos lados.

Habiendo desaparecido la civilización Protochimu del suelo peruano se presenta en la misma región un nuevo tipo, en forma casi absolutamente incoherente con el precedente, muy parecido, sin embargo, y aún hasta cierto punto idéntico con ciertas alfarerías del Norte, también allá posterior a la primera civilización maya, con cuyos elementos, por la confusión con elementos étnicos de diferente naturaleza, se había formado. Para la apariencia del tipo también en el Perú no había, por eso, ninguna necesidad propia peruana.

Son platos trípodes o de pie anular, tipos por sí mismo especialmente característicos de la zona más al Norte, jarros de forma relativamente sencilla, como muchas de civilizaciones de esa zona, no faltando, además, botellas de cuello angosto de una nueva forma.

La comparación de algunos de estos vasos con correspondientes de Guanacaste, de la zona del Istmo, y del Norte ecuatoriano hará aún más evidente la íntima semejanza que une formal y decorativamente unos con otros. Ya por sus semejanzas con aquellos parece inevitable la conclusión que fue directamente importado el tipo del Norte, dando origen de esta manera también en el Perú a la creación de algunos nuevos tipos de civilización, uno de estos el conocido tipo costeño decorado siempre de blanco, rojo y negro.

---

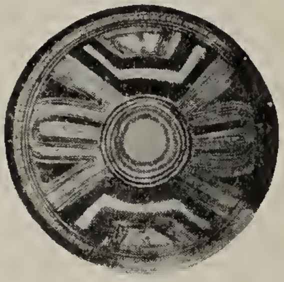
[8] Denominaciones por Holmes y MacCurdy, compárese también: Uhle, *Cronologia y Relaciones de las Civilizaciones Panameñas,* 1925.

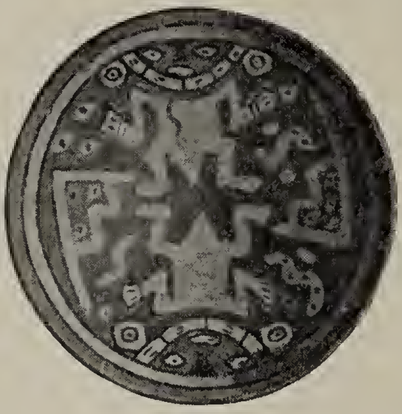
[9] Vea *Toltecas, Mayas y Civilizaciones Suramericanas,* 1923.

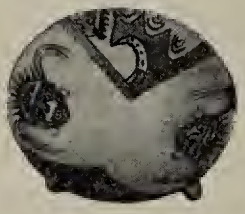
[10] Vea Joyce, Thomas A., *Mexican Archaeology,* figura.

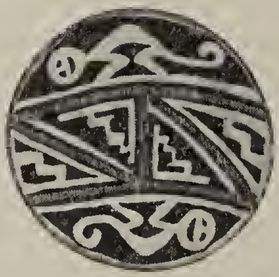
Pero si fue introducido este tipo de regiones lejanas del Norte, injusto sería negar la misma calidad de origenes forasteros a tantos otros tipos y caracteres particulares que ligaban ya antes varias civilizaciones peruanas con distintas de la región maya del Norte.

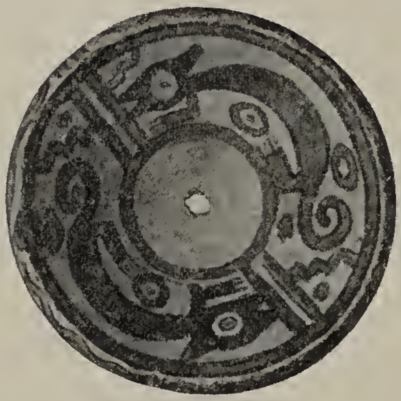
Compárense los vasos de las siguientes series, unos con otros: platos trípodes o con pie anular de Guanacaste, Fig. 2, numerosos de la Provincia del Carchi, Ecuador,[11] de Chiquitoy, valle de Chicama, Perú, Fig. 3, de Virú, Fig. 4. Lo característico de estos platos son representaciones de figuras humanas en el interior de los platos, al principio una sola "figura del Dios el Sol," despúes la misma en forma simétrica con dos cabezas, después la división de la misma figura en dos simétricamente correspondientes una otra (Fig. 2). Al fin quedan solamente las dos cabezas (vea Fig. 4 y numerosos ejemplos del estilo posterior costeño). Figuras de ángulos de piernas largas con una escalera en su centro (vea Fig. 5) son particularmente características de vasos del mismo estilo de Chiquitoy (Fig. 3, compare también Fig. 6) y de Carchi, Ecuador, probando de esta manera la unidad del estilo.


2


3


4


5


6

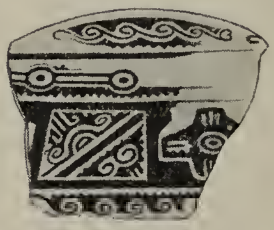

7

FIG. 2—PLATE, GUANACASTE. FIG. 3—PLATE, CHIQUITOY, PERU. FIG. 4—TRIPOD PLATE, VIRÚ, PERU. FIG. 5—PLATE, CARCHI, ECUADOR. FIG. 6—TRIPOD PLATE, CHIQUITOY, PERU. FIG. 7—FRAGMENT OF PLATE, NICARAGUA.

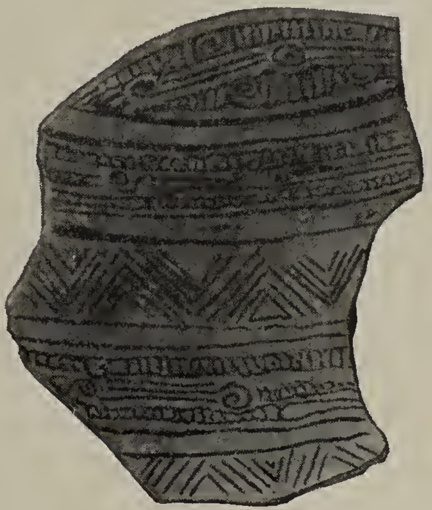
---

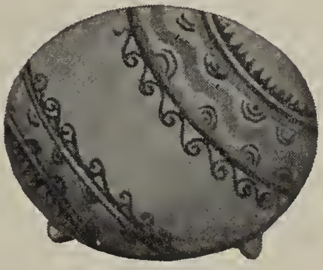
[11] Véanse ejemplos en: Jijón y Caamaño, J., Puruhá, en el *Boletín de la Academia*, no. 12–14.

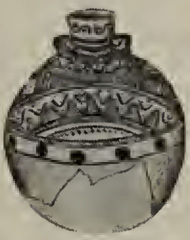
Platos con dos figuras de jaguares separadas por una faja diagonal: numerosos del Carchi, representados allá con esta forma en diferentes estilos, uno de estos reproducido en Fig. 5; de Chiquitoy Fig. 6.

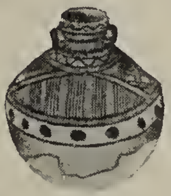
Platos con la división de la superficie interior por fajas simétricas curvas formando segmentos: de Nicaragua, Fig. 7; Esmeraldas, Fig. 8; Virú, Fig. 9. Obsérvese la identidad de los bordes de las fajas (volutas y filas de dientes) en las Fig. 7 y 9.

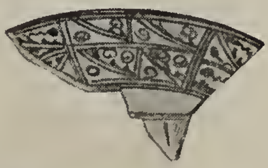
Jarros y ollas con la división de su superficie para la decoración en forma de segmentos; Chiriqui, Fig. 13 (numerosos ejemplos de este tipo decoración en los estilos de pintura negativa y ''aligator''); Carchi, Ecuador, Fig. 14; pie de la Huaca del Sol de Moche, Fig. 10 y 11.

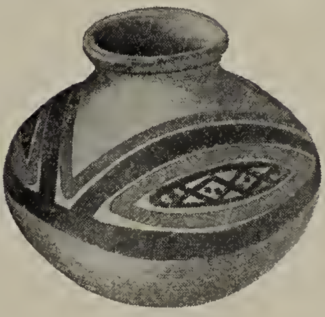

8


9


10


11


12


13

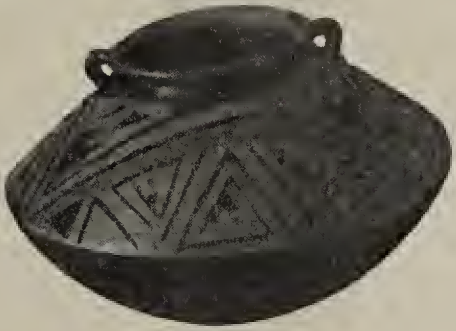

14

Fig. 8—fragmentary plate, Esmeraldas, Ecuador. Fig. 9—tripod plate, Virú, Peru. Fig. 10—pottery vessel, Moche, Peru. Fig. 11—pottery vessel, Moche, Peru. Fig. 12—fragment of tripod, Moche, Peru. Fig. 13—pottery vessel, Chiriqui. Fig. 14—pottery vessel, Carchi, Ecuador.

En todo, numerosos de las cuatro clases de vasos referidos pertenecen en su región a estilos de decoración por la pintura negativa.

Otros platos trípodes cuyos fragmentos fueron encontrados en un cementerio de la plataform a de la Huaca del Sol de Moche (Fig. 12), eran productos del mismo tiempo; por sus tres pies documentaron la misma descendencia de formas originalmente forasteras. El tipo de su decoración muestra elementos de carácter mayoide. Ejemplos de platos de la misma clase encontrados en la sierra peruana carecen de los elementos mayoides de decoración, aparentemente eliminados en consecuencia del transporte del tipo de la costa a la sierra.

La explicación del origen de las civilizaciones peruanas da un ejemplo de la que ha de resultar al ensayarsela en forma igualmente detallada con tantas otras civilizaciones del Continente, como fue posible ya con las bién estudiadas peruanas. En las tres civilizaciones más antiguas de los Moundbuilders (centros: Red River, Louisiana, Arkansas) las mismas semejanzas con tipos mexicanos, mayoides, chorotegas, istmeños, como en las peruanas. Las mismas agrupaciones de diferentes motivos en los objetos, que indican claramente relaciones históricas con las civilizaciones centroamericanas, como en el objeto reproducido en: *Ursprung der Moundbuilder-Civilisationen.*[12] Por otro lado numerosos paralelos directos con tipos más antiguos peruanas, como en las construcciones altas (mounds) de tierra,—o, como en el Perú más todavía, de adobe—(compárense también los mounds del Ecuador, de Colombia, y de Honduras), en el uso y tipos de vasos figurativos, vasos en forma de cabezas grandes humanas, botellas con cuello estrecho bifurcado, teteras, etc.

Como en el Perú: primero la radicación de tipos de carácter forastero y diferente durante tres periodos, todos correspondientes al tiempo del primer imperio maya; después la interrupción de las relaciones que primeramente habían causado la introducción de los tipos originales, y desarollos independientes de tipos de civilización consecutivos; duración de este desarrollo hasta los tiempos de la Conquista, con muchos caracteres que, como recuerdos, habían quedado de las civilizaciones iniciales; propagación de las civilizaciones iniciales a partes circunvecinas; como del Perú a la Argentina y Chile, así en el Norte, al Norte, Noreste, y Este de los Estados Unidos, con disminución del valor y de la precisión de muchos de los detalles de las civilizaciones originales; también la confluencia de numerosos tipos de diferentes fuentes ya solo indirectamente relaciones con las mismas fuentes centroamericanas, como en la Argentina la confluencia de tipos peruanos, bolivianos y chilenos, así en el Este de los Estados Unidos: de tipos derivados del Oeste con otros que representaban una corriente llegada de las Antillas, etc.

En las civilizaciones más antiguas de Colombia, Venezuela, y de toda la costa hasta la Isla Marajó, en la embocadura del río Amazonas, se repiten en forma muy parecida las semejanzas con tipos centroamericanos, en tal caso particularmente de la area chorotega, no faltando, sin embargo, numerosos que, directa o indirectamente, indican derivaciones de la propia fuente maya. Las civilizaciones de las Antillas brotaron bajo influencias directas mayas y otras indirectas, como por ejemplo venezolanas. El dios Huracan, también de las Antillas, era de origen maya, el tipo común de hachas, con muescas de todas estas regiones, derivado de las mismas fuentes.

---

[12] *Congrès International des Américanistes,* Göteborg, 1924, pág. 680, Fig. 1 (figuras de estrellas y al mismo tiempo el uso de la pintura negativa), o en el otro, Fig. 3 (forma originalmente mayoide y al mismo tiempo la estilización de la cabeza de serpiente que se encuentra en vasos mayoides del mismo carácter).

Las regiones del cultivo de maíz en todo el Este suramericano, hasta la Argentina al Sur, eran igualmente naturales dependencias de las primeras fuentes de las civilizaciones centroamericanas. En un hermoso trabajo Lehmann-Nitsche ha demostrado, que los demonios de bosques y llanuras del Este suramericano hasta las Pampas argentinas y Chile tienen por origen la figura de Huracan y Tezcatlipoca de los mitos centroamericanos. El tipo de las chozas redondas de paredes fijas descendió al Oriente suramericano de fuentes originalmente centroamericanas, como en las de la Provincia del Carchi, de antiquísimos tiempos ecuatorianos, se reconoce aún este carácter.[13]

En la pequeña elevación cultural de las primitivas tribus del Este suramericano seguramente poco habrá colaborado, por eso, la actividad de las ideas elementares, innatas, como parece, a la mentalidad humana. Suficiente habrá sido que resplandores de civilizaciones más altas de otras partes llegaran a los bosques brasilianos para despertar, también allá, con los mismos elementos aportados de afuera, las primeras luces de civilizaciones.

Aun concediéndose que las ideas elementares innatas a la mentalidad del hombre sean siempre activas a exteriorizarse en nuevas modificaciones de su vida visible, sin embargo, muchos fenómenos aparentemente aislados, y, por eso, de la más fácil explicacion por la propria intuición de los aborigenes en sus ideas elementares, habrán tenido origenes históricos lejanos en al aporte de elementos, propios ya antes de civilizaciones vecinas, adaptádos solo después con ingenuidad al gusto de sus nuevos transmisores.

Universidad Central del Ecuador,
Quito.

---

[13] *Las Ruinas de Cuasmal*, p. 48 y sig.

MIGRATIONS FROM ASIA TO AMERICA AND THEIR TRACES

By Aleš Hrdlička

SINCE 1926 the Smithsonian Institution has resumed anthropological and archaeological research in Alaska and the Bering Sea, a field in which it has done pioneer work under Dall, Murdoch, Nelson, and others. The objects are (1) The study of the living natives of this region; (2) A survey of the rivers, coasts, and islands for extinct sites and villages; (3) Archaeological work in the oldest sites that may be discovered. Work was begun in 1926 by an extensive survey of the Yukon and the coasts as far as Point Barrow, by the writer. In 1927 the work was continued from Bristol Bay to the Yukon on Nunivak Island by Collins and Stewart; during the present year more intensive work is carried on by Collins on the St. Lawrence and Punuk Islands, with possible extension to the north shores of the Seward peninsula. These investigations have already thrown some new light on the problem of Asiatic migrations to the New World. Such migrations, it is now seen definitely, were not only natural and easy, but inevitable, and they continued until America was all peopled. They were however extensions rather than migrations, and were wholly by water. Land connections were wholly unnecessary. The comings were evidently fairly recent, geologically. Highly interesting traces of them, cultural and otherwise, have already begun to appear; though the conditions for the preservation of the remains in this region were most unfavorable.

United States National Museum,
Washington, D. C.

LES IDÉES RÉCENTES SUR LE PEUPLEMENT DE L'AMÉRIQUE

PAR L. CAPITAN

LA question du peuplement de l'Amérique a vivement préoccupé les savants et les penseurs du monde entier depuis le 17ième siècle. Toutes les théories alors existantes en archéologie ont été successivement émises en conformité des connaissances ayant alors cours. Actuellement si on examine la façon dont les origines de tous les peuples connus ont pu être établies, on constate que partout c'est au moyen de la préhistoire dont les méthodes et les résultats sont de pratique scientifique courante. Il parait donc tout à fait légitime d'introduire ces méthodes dans la recherche des origines des Américains et par suite du peuplement de l'Amérique.

Mais, chose curieuse, cette idée bien simple, que nous avions émise depuis bien des années, a trouvé parmi beaucoup d'Américanistes les plus distingués une opposition irréductible et a suscité des hypercritiques violentes. Nombre de fois nous avons protesté contre cette façon d'étudier les faits, en suppliant nos collègues Américains de vouloir bien appliquer à l'étude de la préhistoire Américaine les méthodes actuellement courantes dans tout l'ancien monde sans aucun parti pris.

Or voici que le mouvement s'accentue aux Etats Unis où les géologues apportent depuis un certain temps des faits d'observation excellents, conformes aux desiderata sus-indiqués et qui démontrent que dès les primes origines les choses se sont passées dans l'Amérique du Nord, comme dans le monde entier. Les faits si curieux publiés dans *Natural History* ne laissent pas le moindre doute sur l'existence dans l'Amérique du Nord d'un homme paléolithique ancien contemporain de l'élephant, du mastodonte, et du bison antique.

Mais si la voie est ouverte ainsi par les observations récentes et rigoureuses des géologues américains, il existe en Amérique du Nord de nombreuses observations anciennes, qu'il serait utile de reprendre à la lueur de la critique moderne. Tels sont les faits d'Abbott, de Wilson, ceux que Trenton a fournis et qui portent tous les caractères d'authenticité archéologique fort ancienne, probablement comparable au Chelléen d'Europe, d'Afrique, et d'Asie. J'en suis convaincu depuis 18 ans après examen des collections des Musées de New York, Washington, et Cambridge.

Il y aurait donc lieu de reprendre les faits anciens, d'examiner soigneusement les inombrables et remarquables documents accumulés par nos confrères des Etats Unis depuis bien des années, de les étudier comparativement à ceux du reste du monde, en toute liberté d'esprit. Il est certain que nombre de documents pourront ainsi être certainement rapprochés de ceux du Vieux Monde et beaucoup certainement identifiés. Qu'on veuille bien se souvenir qu'il y a cinquante ans pas un instrument préhistorique n'avait été signalé en Afrique et que l'existence de l'homme primitif y était inconnue. Aujourd'hui les instruments non seulement néolithiques mais même paléolithiques les plus anciens y ont été découverts en quantités inombrables dans toutes les parties de cet énorme continent et par suite l'existence de l'homme primitif le plus ancien établie en Afrique.

Ce sera la gloire des archéologues actuels et des géologues des Etats Unis que d'avoir fait une découverte immense similaire en Amérique. Elle est du reste en voie de production et nous en sommes fort heureux, nous les vieux doyens de la préhistoire.

Or parmi les conséquences les plus remarquables de l'établissement de ce grand fait, l'une des plus curieuse sera la question du peuplement de l'Amérique qui sera ainsi éclairée d'un jour tout nouveau. En veut on quelques exemples? Dans toutes les explications du mode de pénétration des hommes primitifs en Amérique on se heurte aux questions géographiques, orographiques, météorologiques. Or si la préhistoire démontre que, conformément à la marche universelle, l'homme a pénétré en Amérique dès les temps préglaciaires et ensuite durant toute l'époque glaciaire, il parait très vraisemblable d'admettre que la forme du continent devait être assez différente de ce qu'elle est aujourd'hui, et pour n'en citer que deux exemples: que la mer de Behring était remplacée par une large surface terrestre et que la mer des Antilles devait être occupée en grande partie par les hautes montagnes dont les points culminants forment les îles actuelles. L'orographie du continent lui-même était profondément différente de ce qu'elle est aujourd'hui après l'action des nombreux glaciers du Nord de l'Amérique Septentrionale.

On voit donc que les voies et moyens des peuplements de l'Amérique ont du être profondément différents de ce que nous pouvons supposer aujourd'hui.

Nécessairement donc les explications actuelles basées sur les comparaisons géographiques très anciennes avec celles de nos jours ne peuvent entrer en ligne de compte et avoir une valeur certaine.

Les possibilités d'accès faciles de l'Amérique par les voies naturelles seulement sont certainement vraisemblables du fait des conditions géologiques et géographiques qui devaient exister très anciennement. A ces considérations d'ordre physique, il peut aussi s'en ajouter d'autres d'ordre évolutif et ethnographique, qui peuvent fortement corroborer les hypothèses de la pénètration par voies artificielles, surtout en ce qui a trait à l'apport par voie marine.

On voit donc qu'aujourd'hui cette grave question doit être envisagée de façon tout autre et que les notions préhistoriques peuvent contribuer à l'éclairer d'un jour tout nouveau.

Nous avons confiance que ce sera bientôt l'oeuvre de nos collègues géologues et préhistoriens des Etats Unis.

COLLÈGE DE FRANCE,
PARIS.

PREHISTORIC CULTURAL AREAS EAST OF THE ROCKY MOUNTAINS

By Warren King Moorehead

FOR more than forty years various institutions and individuals have carried on extensive explorations of Indian sites in that portion of the United States lying east of the Rocky Mountains. These researches and a study of the various artifacts, implements, and ornaments obtained now enable us to separate our country into cultural areas.

Within the borders of the State of Maine and confined approximately to one hundred and fifty miles north and south and some one hundred and thirty miles east and west, have been found twenty-three cemeteries of the so-called Red Paint people culture. This is entirely prehistoric and there is no record in all our literature of contact between these people and any of the early European voyagers. The graves themselves are so old that out of five hundred examined carefully, but five contain fragments of human bones. All burials are in sand, gravel, or sandy loam. The cultural status is based upon the persistent presence of nine forms and objects as follows: long slender slate spears, plummets, adze blades, gouges of a peculiar type, the powdered hematite itself, small crescent-like ornaments, nodules of iron (*ferric oxide*), spear heads of clear chalcedony known as the Labrador stone, and elongated paddle-like objects perforated at the top.

But two of these forms occur in sites elsewhere. Some of the types are slightly Eskimoan.

In the Lake Champlain region, northern New York, about the year 1870 was opened a large Indian cemetery, apparently very ancient. The skeletons, much decayed, were accompanied by some fifteen long tubes of sandstone or shale, certain copper objects, and chipped flint implements of a rather peculiar form. Tubes of similar character, but less in length, have been found in graves in sand knolls in the State of Connecticut, and in two or three instances in the State of Maine. Tubes have occurred in the Ohio Valley in burials made in glacial kames rounded and affected by erosion until they appear mound-like in character. None of these peculiar tube-like objects are found in the later Algonkin graves of the east.

In the central portion of the Ohio Valley is located the famous Hopewell culture concerning which much has been published the past eighty years. The first explorations were made by Messrs. Squier and Davis, pioneers in American archaeology. Later, Professor Putnam and the writer continued the work and, since 1900, Professor Mills and Professor Shetrone have thoroughly explored large mound sites in what is known as the Scioto Valley, the heart of this culture. Beyond question, the Hopewell art in terra cotta, copper, bone, delineation of human, animal, and bird life was exceedingly high and was not equaled elsewhere save possibly by the Etowah people of north Georgia. However, the Hopewell craftsmen were weak in ceramic arts and very few vessels have been found in Hopewell mounds. The several recovered indicate less than one jar, or vessel, to fifteen or twenty tumuli. Work in sheet copper was nothing short of marvelous and scores of complicated geometric designs, all of native American copper, are in evidence. With the exception of a brief paper by C. C. Willoughby on symbolism, no attempt has been made to study technically the extent of symbolism among these people. It is an important field.

Contrasted to this Hopewell culture is that based on the objects found in the vicinity of Fort Ancient, on the Miami, Ohio, and considered the largest earthwork in the world, and the very extensive village site at Madisonville some thirty miles down that river. Even persons untrained in archaeological studies, on viewing collections of these two cultures placed side by side, will at once sense the striking difference. The main villages of the Hopewell seem to have been confined to an area approximately one hundred and fifty by one hundred and twenty-five miles, yet their influence was felt as far west as Illinois and Iowa, and to some extent in the Kanawha Valley of West Virginia. Knowledge of great cultures in the Tennessee and Cumberland valleys to the south slightly affected the Hopewell people, but there is no evidence that these Southern cultures were affected or modified in any way by knowledge of the Hopewell culture. In brief, except in copper, there was a trade movement northward, rather than southward, all of which is significant.

In the Kanawha Valley, to the southeast of the Ohio region, was located a somewhat different culture in which the use of hematite rather predominated and copper was almost absent. Localized and specialized forms in flint working are found.

Little or no work has been done in this region; therefore, complete observations are not in order, but when exploration is undertaken it is the belief of the writer that we shall find Kanawha related to the people of the James Valley in Virginia, and also slightly affected by contact with the Hopewell culture.

The great river valleys lying south of the Ohio, the Cumberland and Tennessee, were long thought by several observers to have been dominated by the Cherokee. We have abundant evidence in our literature of Cherokee control in historic times; yet exploration would indicate a highly developed art quite different from that of the Cherokee. In the northern part of Georgia lies the Etowah group of mounds. After four winters' exploration it is suggested that the builders were probably early Shawano, who were singularly adept in art in shell, clay, and copper. The latter was too precious to be utilized as cutting tools and in this respect the Etowah people differed from the Hopewell, or the mound-building tribes of Wisconsin and Michigan. With the exception of three or four hatchets, most of the copper was beaten out into thin plates and most delicately and skilfully treated. Not a few examples of true répoussé work were recovered. Some of the plates twelve to fifteen inches in length exhibit full length human figures; the garments, personal ornaments, and weapons all clearly show. The plumed serpent was a favorite motif on shell, although the human figure, the eagle, turkey, and duck are not wanting. Peculiar brown chert, of very high grade, was brought down, we assume, from Tennessee and worked into very long, thin, delicately chipped problematical forms. One of these is 26¼ inches in length. Pottery occurs in profusion. A close parallel is drawn between the art in shell, flint, clay, and copper of these Etowah people and those of the central portion of the Tennessee and Cumberland valleys one hundred and fifty or two hundred miles to the north.

In southern Illinois, just across the river from St. Louis, are the Cahokia mounds, one of which is upwards of eleven hundred feet base diameter and one hundred and four feet high. The village site surrounding the one hundred or more tumuli is considered one of the most extensive in this country, being somewhere between six and seven miles in length and the breadth varying from one-half to upwards of a mile. Sixteen months' labor at Cahokia indicates that it represents the farthest northward push of a distinct Southern culture. Yet, the mystery of Cahokia lies in the fact that although the site is unequaled in this country, there is little evidence of high neolithic art. Future exploration may change this observation. It is almost inconceivable that a large body of American aborigines living upon fertile plains for a long enough period to construct extensive truncated pyramids of earth should lack a highly developed art. That one of these mounds contains hundreds of burials of important personages we may safely imagine, but up to the present time field operations indicate a rather low cultural status.

A scant seventy-five miles north of Cahokia, in the valley of the Illinois River, and extending from that point as far north as Peoria, we have two cultures, or perhaps one should say two tribes—the one of extensive habitat and the other confined to a limited area. Beyond this and northward toward Lake Michigan there are evidences of a rather primitive tribe bearing slight relationship to the tribes of the Illinois Valley. The Lake Michigan tribes' status can not be discussed intelligently since researches have not been completed.

Near the small town of Liverpool, south of Peoria, on the Illinois River, were found in three mounds two log tombs, or pens, and an enclosure composed of small stones laid in clay almost cement-like in character. The discovery was made by ignorant men and the witnesses do not agree in their description, yet a study of the objects recovered, and an inspection of fragments of the logs, and small stones and so-called cement leads one to the conclusion that the Indians of the Liverpool district departed from the usual mortuary customs observed by Illinois Valley mound builder tribes. In Ohio we have discovered skeletons surrounded by crude log pens. In the Liverpool mounds large tree trunks sixteen or eighteen inches in diameter were laid up to a height of five or more feet. A layer of white sand was placed on the base; the bodies laid on this were accompanied by various copper objects and long slender bone daggers, pipes, and pearl beads. It was stated by witnesses that the so-called wall of small stones and clay was about five feet in height, fifteen to twenty feet in length, and roofed over with logs, as were the log tombs.

Although diligent search both last year and this year was made by surveys sent out by the University of Illinois, more tombs could not be found.

It is concluded that the builders of the log rooms constituted a small body and not a general culture, and were more or less related to the Hopewell of the east.

The most extensive culture in the region is that of the Illinois Indians proper. Beginning with Joliet on the upper river, where Mr. George Langford has made very important and careful researches, and descending the stream for two hundred miles to Alton, one finds a prodigious number of mounds and cemeteries, all more or less alike. The tribal status might be compared to that of Fort Ancient, or Madisonville, Ohio, but it is manifestly quite different from the Cahokia, not far to the south. In one mound one hundred and eighty-eight skeletons and accompanying objects have been uncovered and preserved *in situ* by Doctor Don Dickson.

Along the shore-line of eastern Lake Erie and Lake Ontario and central New York—St. Lawrence drainage—are the well-known Erie and Iroquoian groups which have been fully described by other workers. It is the opinion of Dr. Arthur C. Parker, familiar with St. Lawrence and Iroquoian sites, that there was in this region an early pre-Algonkin or pre-Iroquoian culture. Certain graves opened by him during many years of research contain very primitive tools, absence of the usual pipe forms, little pottery, and that decidedly non-Iroquoian. The skeletal material is practically gone. Dr. Parker believes that persistent research in these scattered graves of a pre-Algonkin or pre-Iroquoian culture and careful tabulation and study of the objects recovered from each exploration will have a direct bearing on the origin of the Iroquois in central New York.

At Hebron, Connecticut, a large deposit of very primitive tools, much weathered and crude was found last year. The writer visited the site and excavated. The tools, thirty in number, are not Algonkin forms and closely resemble those described by Parker.

Just east of the Rocky Mountains is the valley of the Canadian, a long river and tributary of the Arkansas. From where the Arkansas enters the Mississippi up to eastern Oklahoma the various sites and artifacts therefrom indicate variations of southern cultures and not Etowah in character. Proceeding up the river there is a decided change from the polished hatchet or celt and grooved axes to the chipped or notched cutting tool. Continuing westward through the buffalo country there is a decided predominance of scrapers and hide dressers; crude ceramic art, eastern and southern forms disappear.

Entering the Panhandle of Texas one encounters a most interesting archaeological problem. We are still in buffalo country which has assumed a desert character. Villages are on the streams. We observe large flat stones often in circles. The valley of Wolf Creek, forty miles from the town of Canadian, Texas, presents us with our first slab house construction or rudimentary pueblos. These become larger and more compact as we proceed toward the Mora Valley.

Three reconnaissances were carried out and a large number of these rudimentary pueblos photographed and mapped. It seems that these ruins have a direct bearing on the origin of the Pueblo-Cliff culture. That migrations from Mexico into the Rio Grande and Colorado valleys occurred no one may question. Yet, it seems to the writer that we have field evidence to the effect that buffalo-hunting tribes, persistently moving westward, gradually abandoned the buffalo-hide tipi and employed stone slabs in house construction. We have not time for details but I shall be glad to furnish the full evidence to any interested persons.

To the statement that these ruins indicate an eastern migration of the Pueblo we would reply that there were small settlements made in western Kansas or in the Mora Valley. Here we have some of the characteristic Pueblo pottery. Next to their architecture this was dominant—their high ceramic art. If the small ruins down the Canadian are Pueblo why do we find no typical Pueblo pottery? Certainly Pueblo Indians would not lose that peculiar art in traveling a scant two hundred miles. There are some jars from Wolf Creek in the American Museum of Natural History which emphasize the point made. One offers the theory that certain Indians in ancient times, moving up the Canadian, reached a region where buffalo were scarce. They abandoned the tipi and began to construct small houses of large flat slabs so numerous in that country. This suggested building better houses. Be this as it may, no one can deny that we do not discover fully developed Pueblo culture until we are at the upper waters of the Mora River within some seventy miles of Pecos. There is a steady improvement and approach to Pueblo life as one works westward.

PHILLIPS ACADEMY,
ANDOVER, MASSACHUSETTS.

THE COMMITTEE ON STATE ARCHAEOLOGICAL SURVEYS OF THE DIVISION OF ANTHROPOLOGY AND PSYCHOLOGY, NATIONAL RESEARCH COUNCIL

By Carl E. Guthe

WHEN the permanent organization of the National Research Council took place in 1919, a new division of science and technology was created, called the Division of Anthropology and Psychology. Upon the completion of the organization of this Division, a number of projects were presented, one of which was an "Archaeological survey of the States of Illinois, Indiana, Iowa, and Missouri."[1] Doctor Clark Wissler, then chairman of the Division, reported as follows upon the action taken in 1920 on this project:—

> A committee was appointed to encourage and assist the several States in the organization of State archaeological surveys similar to the surveys conducted by the States of Ohio, New York, and Wisconsin. The chairman of this committee is R. B. Dixon, of Harvard University. The plan contemplates the coordination of all the agencies within those States, enlisting the cooperation of local students and interested citizens so that an effective appeal may be made to the various States legislatures for special appropriations for these surveys.[2]

The first committee consisted of R. B. Dixon, Chairman, Berthold Laufer and C. E. Seashore. Subcommittees were created in three states. The chairman for the State subcommittee for Indiana was Amos W. Butler, Indianapolis; for Illinois, Berthold Laufer; and for Iowa, B. F. Shambaugh, Superintendent of the State Historical Society of Iowa. By the latter part of 1920 the committee had enlisted the aid of those persons in each State who demonstrated an abiding interest in archaeological work, and had prepared a two-page mimeograph leaflet, outlining the purposes and methods of such a survey.

Before the end of 1920, interest had been awakened in Illinois and Indiana. A discussion of the Illinois project constituted a part of the meeting of Section H of the American Association for the Advancement of Science at Chicago in December of that year. A few days prior to this, the plans for a similar project for Indiana had been presented to the Indiana Academy of Science and the Indiana Historical Conference, both of which organizations appointed committees to further the work. During 1921, W. K. Moorehead began his excavations at the great Cahokia mound group in East St. Louis, Illinois, working in cooperation with the University of Illinois, and in Indiana the State Historical Commission and the State Department of Conservation, through the State Geologist, jointly developed a survey of the State by counties, recording all facts of an archaeological nature obtained either by field parties or questionnaires.

---

[1] *Fifth Annual Report of the National Research Council*, 1921, p. 53.

[2] *Fifth Annual Report of the National Research Council*, 1921, p. 54.

In July of 1921, the Committee was reorganized as follows: Clark Wissler, Chairman; R. B. Dixon, F. W. Hodge, Berthold Laufer, and Amos W. Butler. In November of this year, at a meeting of the St. Louis Anthropological Society, the Missouri Archaeological Survey was auspiciously started under a committee representing four organizations in St. Louis.

By the spring of 1922 the Committee, in the course of its duties, had accumulated information regarding archaeological activities during the preceding year in several states of the Union. A report covering these activities, the first of a series of similar reports, was published by the Committee in the *American Anthropologist.*[3] During these months, following a visit of the Committee's chairman to Iowa City, the Preliminary Archaeological Survey of Iowa was begun under the auspices of the State Historical Society of Iowa. In the summer of 1922, the Committee felt that the subcommittees for the several States had attained sufficient strength to continue as local groups and their official connections with the National Research Council were, therefore, discontinued. In the fall of the same year an archaeological survey of Michigan, was inaugurated by the museum authorities of the University of Michigan, and about a year later the Michigan Archeological Society was organized.

Since other middle western states expressed an interest in such surveys, the work of the Committee consisted not only in stimulating the activity of the several States, but also in developing a plan for surveys in the Mississippi Valley and the formulation of a technique for field-work. This resulted in the compilation by the Chairman of a report embodying the recommendations of the Committee as to the aims and methods most applicable to State archaeological surveys. These recommendations were circulated in mimeograph form early in 1923, by the National Research Council, and published at the close of the year in somewhat fuller form, through the generosity of the State Historical Society of Iowa.[4] The membership of the Committee had been expanded, and at this time the members were: Clark Wissler, Chairman; Peter A. Brannon, Charles E. Brown, Amos W. Butler, R. B. Dixon, F. W. Hodge, and Marshall H. Saville. At the Christmas meetings of the American Association for the Advancement of Science at Cincinnati, in 1923, a conference on archaeological surveys was held under the auspices of this Committee.

In July, 1924, Doctor Wissler retired as Chairman of the Committee, and Doctor A. V. Kidder succeeded him. The Committee was again enlarged and now consisted of ten men in addition to the Chairman, namely: Peter A. Brannon, Charles E. Brown, Amos W. Butler, R. B. Dixon, F. W. Hodge, Charles R. Keyes, W. C. Mills, Marshall H. Saville, Henry M. Whelpley, and Clark Wissler. In November, 1924, Doctor Kidder took part in the organization meeting of the Tennessee Archaeological Society at Nashville. During the entire period of Doctor Kidder's service as Chairman, the Committee continued to extend its contacts, particularly in the southern and western portions of the country, and its function as an advisory body was thereby strengthened and expanded. An informal conference on the problems of State archaeological surveys was held at Columbus, Ohio, in April, 1926, in conjunction with the annual meeting of the Central Section of the American Anthropological Association.

---

[3] *American Anthropologist,* N. S., vol. 24, pp. 233–242, 1922.

[4] State and Local Archaeological Surveys: Suggestions in Method and Technique, prepared by the Chairman of the Committee on State Archaeological Surveys, Division of Anthropology and Psychology, National Research Council: *Bulletin of Information, No. 11; The State Historical Society of Iowa,* Iowa City, Ia., 1923.

At the following annual meeting of this Section, in Chicago, in March, 1927, a formal meeting of the Committee was held. At this time the Committee recommended the establishment of a cooperative laboratory for the study of the ceramic problems of the eastern United States. The Museum of Anthropology at the University of Michigan offered to maintain this laboratory. This resulted in the issuance by the National Research Council, in January, 1928, of mimeographed announcements of the creation of ''The Ceramic Repository for the Eastern United States under the auspices of the National Research Council'' at the University of Michigan.

In the fall of 1927, Doctor Kidder resigned his position as Chairman of the Committee and Doctor Carl E. Guthe was appointed his successor. At this time, the members of the Committee were: Peter A. Brannon, Amos W. Butler, Charles E. Brown, Charles R. Keyes, A. V. Kidder, R. B. Dixon, W. C. Mills, F. W. Hodge, and W. K. Moorehead. In March of 1928, the Committee met in Beloit, Wisconsin, again with the Central Section of the American Anthropological Association. During the summer of 1928, the Chairman visited sixteen of the Mississippi Valley States in order to become personally acquainted with the problems and personnel of archaeological work in these commonwealths.

Such is a résumé of the history of the Committee on State Archaeological Surveys. Yet it does not give a true story of the work which this Committee does. A consideration of the functions and policies is also necessary.

As one of the many committees of the National Research Council, its functions are defined in two of the six duties of the National Research Council, enumerated by President Wilson in his executive order of May 11, 1918. These are:—

> 3. To promote cooperation in research, at home and abroad, in order to secure concentration of effort, minimize duplication, and stimulate progress; but in all cooperative undertakings to give encouragement to individual initiative, as fundamentally important to the advancement of science.
>
> 6. To gather and collate scientific and technical information at home and abroad, in cooperation with governmental and other agencies, and to render such information available to duly accredited persons.[5]

Doctor Vernon Kellogg, permanent secretary of the Council, interprets these as follows:—

> The council is neither a large operating scientific laboratory nor a repository of large funds to be given away to scattered scientific workers or institutions. It is rather an organization which, while clearly recognizing the unique value of individual work, hopes especially to help bring together scattered work and workers and to assist in coordinating in some measure scientific attack in America on large problems in any and all lines of scientific activity, especially, perhaps, on those problems which depend for successful solution on the cooperation of several or many workers and laboratories, either within the realms of a single science or representing different realms in which various parts of a single problem may lie.

---

[5] *Third Annual Report of the National Research Council*, 1919, p. 2, 3.

> It particularly intends not to duplicate or in the slightest degree to interfere with work already under way; to such work it only hopes to offer encouragement and support where needed and possible to be given. It hopes to help maintain the morale of devoted isolated investigators and to stimulate renewed effort among groups willing but halted by obstacles.[6]

The results of a study of the antiquities of their respective States by the State organizations of Alabama, New Jersey, New York, Ohio, and Wisconsin had been known to archaeologists before the organization of the Committee. The evidence described by the investigators in Ohio and Wisconsin had thrown into high relief the relative lack of information in the States adjoining them. This condition was the immediate cause for the organization of this Committee.

The first problem before the Committee was that of defining what constituted an archaeological survey. It is immediately apparent that a survey consists of exploration and excavation. Since it is always advisable to take a careful inventory of the assets of a given project before paying special attention to a detailed aspect of it, and since the scientific excavation of an archaeological site requires at least the supervision of a technically trained man, the Committee has always recommended, upon the inauguration of a survey, that emphasis be placed on a somewhat detailed exploration of the State, covering a period of several years, if necessary, before a program of excavation is undertaken.

The most patent aspect of such an exploratory survey is a compilation and description of the many kinds of archaeological sites found in the State, both by use of field parties and of correspondence. With this must be coupled an examination of the literature of the subject, which frequently requires research in diverse publications. Moreover, each State contains a number of amateurs, who have become interested through the discovery of ''Indian relics'' in their immediate vicinity. The director of the State survey must not overlook the latent possibilities of these enthusiasts, but must become acquainted with them, enlist their support, and record and evaluate the material found in their private collections. Nor is it advisable to ignore the collections previously obtained in the State by organizations located in distant centers.

Such a program cannot be brought to completion single-handed. It requires an organization which not only is closely associated with local governmental and learned bodies, but also has the good-will of the public and sufficient funds to prosecute the work. Such contacts and facilities have been secured in the past, and therefore can be secured again, when methods applicable to the locality are patiently employed.

The contacts made with local amateurs are an indispensable and logical part of such a survey, but they also complicate the problem. It is impossible completely to control their eagerness to excavate, and many of them earnestly desire to conduct their investigations and preserve their collections in as scientific a manner as possible. Many of them are educated individuals, frequently highly trained in some other field of science. The director of the State survey is sought by them for advice on problems of scientific method.

When he is unable to answer these many questions of organization, publicity and method, he naturally refers them to the Committee on State Archaeological

---

[6] *Fifth Annual Report of the National Research Council*, 1921, p. 6.

Surveys, whose specific instructions are "to encourage and assist the several States in the organization of State archaeological surveys."

Within a short time after its organization, the Committee began to compile data upon which to base its advice, and sought information from all available sources on methods used and results obtained in archaeological investigations. Before the Committee had been in existence two years it became evident that its files, as a result of this correspondence, contained information which was of real value to the entire archaeological personnel. It was now ready to act upon the latter part of the sixth function of the National Research Council as given by President Wilson, namely, "to render such information available to duly accredited persons."

The request for the results of the work of the surveys brought to the files a series of progress reports of investigations, the publication of which, in some cases, would be delayed. Believing that this information was of interest to the science, the Committee published in the *American Anthropologist* the first of these annual summaries, covering the year 1921.[7] However, summaries of the activities of the State agencies did not cover all of the current archaeological field-work in North America. Finding that these were well received, the Committee several years later sought and secured the cooperation of those institutions which were not State agencies, but were likewise engaged in archaeological research. Their cordial response made possible the expansion of these summaries to record nearly all of the archaeological field-work in North America. That this aspect of the Committee's activities has been a popular one is evidenced by the growth of the summaries. That for the year 1921 contains reports from thirteen State agencies,[8] that for the year 1924, the first of the expanded summaries, gives reports from eleven State agencies and eight other institutions,[9] that for 1927 reports on the work of nineteen State agencies, and thirteen other institutions.[10] Today the Committee conducts a correspondence with representatives of fifty-one institutions. The files contain the manuscripts of the reports published, reprints of articles appearing in local journals, newspaper clippings, and photographs.

The information secured through the correspondence deals not only with results, but also with matters of policy. The files contain data, some of which are confidential, on such subjects as: organization, legislation, publicity, personnel, budgets, office records, field records, museum technique, methods of excavation, etc. An examination of this material overwhelmingly demonstrates that the organizations, policies, and methods of the institutions vary considerably. This variability has been of service in determining the policies of the Committee.

Through the proper and judicious use of this information, those organizations seeking aid may profit by the experience of other groups, the names or locations of which may be unknown to them. At the present time the majority of the organizations with which the Committee deals are situated in the Mississippi Valley. As additional contacts are made, particularly in the Northwest and along the Atlantic seaboard, this apparent concentration on the problems of the Middle West will become less pronounced.

---

[7] *American Anthropologist*, N. S., vol. 24, pp. 233–242, 1922.

[8] *American Anthropologist*, N. S., vol. 24, pp. 233–242, 1922.

[9] *American Anthropologist*, N. S., vol. 27, pp. 581–597, 1925.

[10] *American Anthropologist*, N. S., vol. 30, pp. 501–524, 1928.

A certain amount of variety in organization and method is a prerequisite in the advancement of science. Too great a variety is often a deterrent, especially when some of it is essentially unsound because it is based on well-intentioned ignorance of the subject. Each investigator should be proud of his own technique and ready to argue in its support. Yet, there is no such thing as a perfect technique. Much of the archaeological investigation in the Mississippi Valley is done by State agencies which by the very nature of their organization are forced to confine their labors to a single commonwealth. The major archaeological problems of this area are not, however, limited by political boundaries. In order that a State survey may correctly interpret its own work, it must have a knowledge of the results obtained in neighboring areas. If the methods used in these contiguous regions are radically different, a true mutual interpretation is well-nigh impossible.

A consideration of this situation, coupled with the knowledge of the results of the informal cooperative spirit existing among the Southwestern archaeologists, led the Committee to make it a policy always to stress the advisability of using uniform records and methods, throughout a region in which the nature of archaeological evidence is essentially similar. A standardization of technique, as has occurred in the Pueblo region, will lead to a greater mutual understanding of problems and to a wholesome cooperation between students. A single individual or organization will never be able to solve the major problems of North American archaeology. This small branch of research is an excellent example of one of ''those problems which depend for successful solution on the cooperation of several or many workers and laboratories'' to which Doctor Kellogg referred. The Committee, in furthering the spirit of cooperation, is endeavoring to fulfil one of its functions as a part of the National Research Council.

In the consideration of these various aspects of archaeological surveys, the Committee has found it necessary to develop a policy on the basis of which advice and help is given. It is believed that this is as sound a policy as can be secured, because it is based upon the information in the Committee's files, and is reached only after mature consideration by a group of ten archaeologists, who have been appointed not only because of their intimate knowledge of a single area and their interest in the general problems, but also because of the diversity of their experiences and opinions. This policy on certain specific questions, by way of illustration, is as follows:—

1. The Committee seeks to encourage and assist one or more organizations or to cause the creation of a new organization, preferably a governmental agency, in each State, which will serve not only as a center for an archaeological survey, but also as a focus for the local interest within its borders. Such organizations may be Conservation Commissions, Geological Surveys, Committees of the Academy of Science, Historical Departments or Societies, Municipal Museums, or Archaeological Societies.

2. These local organizations can render a great service to science by their investigations. Their efforts will be aided and a large proportion of data will be preserved by the establishment of public parks and local museums, in which both the major and minor antiquities of the immediate vicinity can be exhibited as object lessons of the part played by the Indians in the history of the locality. The State agencies will profit in these matters by contact with the larger museums and research institutions. The Committee encourages cooperative field-work conducted jointly by these larger institutions and the various State organizations.

3. Publicity is a powerful tool. It can control public opinion, which is of far more value than legislation. Yet, publicity when used improperly is a menace. Newspaper articles which stress the value of specimens can create havoc by inciting vandalism, while reports on the same discovery which emphasize the technique of excavation, teach the public to appreciate archaeological methods. The Committee favors the latter type of article and encourages indirect publicity through cooperation with such organizations as luncheon clubs, women's clubs, the Sons of the American Revolution and the Daughters of the American Revolution, the Boy Scouts, Automobile Associations, Nature Study groups, etc.

4. An archaeological specimen unaccompanied by the necessary data is useless to science. Because of the collecting instinct, this type of material has secured a purely fictitious value, which has resulted not only in the buying and selling of specimens among collectors, but also in the manufacture of forgeries. The Committee strongly discourages such indiscriminate exchange or sale of archaeological material.

5. The local collector or enthusiast is intimately acquainted with the archaeological material of his district. Frequently, he is a man of education and scientific training. He may be of great assistance in survey work, and in securing properly recorded local collections. The Committee recommends the encouragement and education of the amateur, whenever possible. Such a policy will curb thoughtless vandalism.

The function of the Committee on State Archaeological Surveys was summarized by Doctor A. V. Kidder, when he was Chairman of the Division of Anthropology and Psychology of the National Research Council, in 1926–7, as follows:—

> The Committee was set up by the Division for the purpose of stimulating archaeological research by State agencies. Although it has no funds for the backing of specific projects, it has served as a fact-finding and correlating body; has supplied, when called upon, advice as to archaeological methods; and has always endeavored to foster the preservation of prehistoric monuments. Furthermore, it is ready to act as a clearing house for information in regard to past, present, and future archaeological activities, the personnel of investigators, the whereabouts of collections, etc.[11]

The Committee endeavors to keep in touch with all archaeological activities upon this continent, in order that it may "gather and collate scientific and technical information . . . , in cooperation with governmental and other agencies" and "render such information available to duly accredited persons." In the dissemination of this information "it particularly intends not to duplicate or in the slightest degree to interfere with work already under way." Its powers are specifically advisory and it cannot direct or control archaeological work in any way other than by suggestion.

---

[11] *American Anthropologist*, N. S., vol. 29, p. 313, 1927.

However, it does hope, by these powers, "to help maintain the morale of devoted isolated workers and to stimulate renewed effort among groups willing but halted by obstacles." By sponsoring conventions and round-table discussions and by disseminating information it seeks "to promote cooperation in research . . . in order to secure concentration of effort, minimize duplication, and stimulate progress."

As far as known, it is the only agency on this continent which, by the terms of its organization and by virtue of the facilities at its command, is in a position to render disinterested and intelligent service to the several students of North American archaeology, in order that through their individual progress, archaeology in general may be benefited.

UNIVERSITY MUSEUMS,
UNIVERSITY OF MICHIGAN,
ANN ARBOR, MICHIGAN.

PRECIOUS STONES USED BY THE PREHISTORIC RESIDENTS OF THE AMERICAN CONTINENT

By George Frederick Kunz

THE North American continent differs from Eurasia and Africa in that the natives did not take up any of the manufactures nor did they do the manufacturing that existed on the European continent, with the exception of the wonderful gold ornaments of Costa Rica and other points in Central America, and in Florida, examples of which may be seen in the museum collections.

It is difficult to locate the ages of lapidary work on this continent for there are very few dates. It is questionable how ancient the material really was. Some of it may antedate our own deductions. The intelligence of primitive man on this continent must date back centuries. It is evident that in each region he adapted himself to his obtainable materials: for instance, the jade in the mountains and rivers of Alaska; carved slate from British Columbia; the copper in the Lake Superior region; the catlinite in Minnesota; the pearls in the Ohio Valley; the turquoise in New Mexico; silver in Mexico; jadeite from Mexico; agate from a hundred places, among them Agate Bay, formerly Two Harbors, Minnesota; and lapis lazuli from Chile to Tierra del Fuego.

The late J. Pierpont Morgan, by sustaining the author, made it possible to study every obtainable precious and semi-precious stone and at the same time to secure these for the great collection, dating from 1889 to the present time. This collection may be found on the fourth floor of the American Museum of Natural History. The color, luster, crystalline forms, and modes of occurrence merit the study of all those who are interested in pre-Columbian lithology.

Mining. Probably very little mining was done by the natives. Powder and dynamite were unknown anywhere on the American continent. Mining was never done with explosives, as in Europe; this method was ascribed to Roger Bacon in the twelfth century. The only method known for blasting was that of building a fire near the mass and when it was heated throwing cold water on it. The copper of Lake Superior and the gold of Central America were obtained from nuggets found in the streams. The copper of Lake Superior was originally in the boulders and pebbles. Some was washed into the streams where it withstood the ages. Originally some objects of this copper combined alongside of native silver were sent to the British Museum and when shown there, the authorities declared they must be the result of some Yankee trick. I note with interest that porcelain or stone ware were not made, nor was glass in any form manufactured on this continent.

We must admit that in fifty countries in Eurasia and Africa, there were more advanced and higher methods of weaving, metal work, wood work, sculpture, and painting than on the American continent. My own observation has been, and some of you may disapprove, that of the semi-precious stones which have been found on this continent, the aquamarine, beryl, amethyst, tourmaline, kunzite, huge masses of which have been found in California, and the spodumene of Brazil, none were mined by the Indians in veins requiring any advanced methods of mining and they did not even recognize them then. The Spaniards were undoubtedly great miners. In the Rosa Clare mines in Chile they are said to have kept workers in the mines for thirty-six hours at a time. Some billions of dollars' worth of silver were taken to Europe in the sixteenth and seventeenth centuries. From the La Luz mine in Guanajuato, a thousand of millions of dollars' worth of silver was obtained and in the Great Zacatecas mine six hundred millions of dollars' worth of silver. It is probable that five billion dollars' worth of silver went from this country at this period, all mined by native labor, at wages of ten cents a day, whereas today the wages would be from three to five dollars a day or twelve shillings to a pound, or fifteen dollars for a mason, one hundred and fifty times as much. The turquoise of Santa Fé was originally worked by the Spaniards, but extensive mining did not begin until the time of Coronado, about 1560. The falling in of the mine is said to have resulted in his return to his native country. I myself have taken from this scene a bushel of Indian hammers and, in the mine itself, two Indian hammers, indicating that they must have worked there at some time. These were taken at some hundred feet from the entrance, which was on a level.

Gold. Gold was not used to any extent and the greatest amount of it must have been sent to Europe, where it was melted and worked over. The character of the work was intricate and delicate. In addition to those gold ornaments which may be seen in the American Museum of Natural History there are some in the Philadelphia Museum, which are remarkable for their size and simplicity of work, and also some in the Metropolitan Museum of Art. In addition to these, examples may be found in the Museum of the American Indian and in the Ethnological Museum in West Philadelphia. It is a strange thing that with all the gold there is in California there was no gold mined or worked by the Indians of that region. Although the aboriginal American was rarely if ever a rock miner, yet he did extract gold and platinum from the streams in a number of regions, namely, in Costa Rica and the United States of Colombia, and it was utilized by him in a number of different pieces. Gold must have been taken by the ton by the Spaniards, who sent it to Europe from Peru, Central America, and Mexico.

Platinum. Platinum was not discovered until 1740, but some lip ornaments, earrings, fish hooks, and other objects made of platinum were used by the early natives of Colombia, many centuries before platinum was known in Europe. Platinum was apparently found near the gold because the same things seem to have been duplicated in gold. In the Museum of the American Indian are several platinum ornaments, one with a carved outline of a figure, made by hammering, and not melted or soldered. There are also fish hooks and other objects, ornaments, made of platinum; interesting examples are in the Museum of the American Indian.

Diamonds. Although the writer has found or identified diamonds in thirty-five localities in the United States, they were never worked by the prehistoric

Americans. They were never discovered by them in Venezuela or the adjoining region in which they were later mined. Diamonds were not discovered in Brazil until 1728, which country had the greatest supply in the world for over a century, so great, that Lord Henry Philip Hope in the eighteenth century assumed the payment of the debt of Brazil, taking the payment in diamonds found in that country.

Jadeite. Sapphire as a gem was not mined or even found in the rough, although it would almost seem that some substance as hard as sapphire must have been necessary to carve the jade found in Central America. In the E. G. Squier collection in the American Museum of Natural History, found fifty years ago, are objects unrivaled in many ways. It would seem that some hard abrasive material was used in cutting the Kunz votive adze, weighing sixteen pounds, out of one piece of jade, beautifully carved, with head and features, and dull spots where gold must have been applied. There are at least several thousand objects known of carved American jadeite, weighing from a few ounces to a few pounds.

There are also great jadeite beads in the E. G. Squier collection on one of which the artist who was not an engraver, marked designs that possess all the spirit of an artist, evidently with a hammer, or a hard chisel. There is a large exquisite tablet in the same collection. Jadeite only was found in Mexico and Central America.

Although jadeite and nephrite were extensively used in the Swiss lake-dwellings in Europe, the primitive natives have carefully separated these hard and tough pebbles from the more pleasing ones and they shape the adze heads and the like from the tougher ones. Yet, the Mexicans of Central America have greatly restricted the use of this precious material to ornaments and, as in the case of the great Kunz adze, two pieces were cut from the back to extend the material.

There are several ornaments in this collection which were originally adzes but have been engraved on one side and split longitudinally, as the marks on the back show, the other half being worked into another object or two. Other objects have been cut into three or four pieces, as is evidenced by the objects seen in the same case. In this and the Minor C. Keith collection the ornaments, although they are figurines, are not an inch in width, although the adzes originally were inches in diameter.

On examining the collection of the late Professor Belucchi, of Perugia, Italy, I found, to my surprise, that it contained several Mexican adzes. One had four pieces cut from the corners, leaving the original adze outline, but the whole object itself had the form of a cross, showing the European religious adaptability to a primitive Maya conception.

There is no doubt that jadeite was one of the most important ornamental minerals of the Central and South American continents.

Among the other notable examples of jade work is a jade ring 2½ inches in diameter, pierced with a drill. It seems evident that the lapidary had in mind something that he wished to create, but did not have the wherewithal to do it. There is also a small piece of a tablet that is 7 cm. long and 6 wide and 2 to 3 mm.

thick that is wonderfully carved and beautifully polished and is one of the best pieces of Maya work that exists.

In the Heber R. Bishop collection in the Metropolitan Museum of Art may be seen an amulet made of jadeite and a small idol, with inscriptions, both from Mexico. There are also several teeth inlaid with jadeite from Mexico.

The jadeite type was used by the inhabitants of Guatemala in Central America. A specimen of corundum was found by myself in Mexico and it is possible that that reported by Sahagun may have been the result of European contact with the natives.

Some remarkable nephrite jade was used by the natives of Alaska, generally for utilitarian purposes. Adzes, spears, and the like were found which were most intricately and securely made. They were never ornamented.

Obsidian. Although obsidian—volcanic glass—is very slightly used for jewelry, it required a high lapidary skill to work it. In ancient Mexico, it is remarkable how this material was found in great boulders, chipped most wonderfully. Probably the most important piece of this kind is the piece, nine inches long, belonging to Father Fisher, confessor to Emperor Maximilian, now in the W. W. Blake collection in the National Museum at Washington.

The famous magic stone used by Doctor Dee in the seventeenth century is said to have been of this material and probably came from Mexico.

The mirrors of this material are very remarkable as they are dense black. In the American Museum of Natural History there are three mirrors of obsidian, two oblong and one circular. The oblong mirrors are 17¼ inches by 12 inches and 12 inches by 9½; the larger one is 1¼ inches thick and the other ¾ inch thick. The circular mirror is 10½ inches in diameter and has a lacquer frame about two inches in width, which may or may not have been added later. These mirrors give an excellent reflection of the face upon the highly polished surface of the deep black material.

The lip ornaments have the appearance of miniature high hats. The carved chipped objects measuring nearly two inches across and the variety of ear ornaments made of this material include one that is about one inch in diameter and one and a half inches long and one millimeter in thickness.

Some of the most remarkable obsidian objects are those in the National Collection in Mexico City. One of these is a monkey, head and body six inches long and hollow, the arms and legs are decreased in size to a few millimeters in thickness. There are also labrets that are as thin as the modern lapidary could make them.

The Museum of the American Indian contains a very interesting collection of obsidian work from the Valley of Mexico—labrets and earrings, hollow cylindrical, an inch by an inch and a half and pierced. The ornaments for the lips are also of the high hat type.

Turquoise. Another important material was the turquoise which has only been discovered in one locality in Mexico. But one sees the great skulls, shields, handles, daggers, and other objects that are in the Museum of the American Indian, the Pigorini Museum in Rome, the British Museum in London, and the Museum für Völkerkunde in Berlin, Dresden, and elsewhere. One is surprised that in the British Museum even a human skull is carefully overlaid with tiny squares or odd shapes of the precious turquoise, with a row of marine shells around the eye socket, and sometimes, in addition, a row of black obsidian, and finally, in the center a rounded oval disk of iron pyrite. Although a skull may be an unpleasant object to many, the entire object is very pleasing.

The turquoise has been mined incessantly from before the time of the Spaniards to the present. One of the greatest deposits is worked to this day and the product is sold at the Grand Canyon. There they employ native Indians to work the New Mexican turquoise deposits and to mount them in silver. Many of the objects have the spirit of the Indian and many show modern adaptation. The quantity sold at the Grand Canyon and Albuquerque is enormous.

In the American Museum of Natural History there are more than fifty thousand beads, some not more than two millimeters in diameter, and yet they are pierced and strung. The beads are as small as any that are made at the present time and remind one of the Egyptian collection of the Eighteenth Dynasty, which is exhibited at the Metropolitan Museum of Art. There are also many earrings and beads of turquoise which are interspersed with red coral.

A crest of turquoise is in the Museum of the American Indian from Arica, Chile, as well as a bead 25 mm. long and 8 mm. in diameter, of malachite, pierced throughout the entire length. In this same museum there is also a bronze ornament with turquoise eyes from Chan Chan, capital of Chin, north of Lima.

There is also a magnificent set of wonderful shields and like ornaments overlaid with turquoise in the Museum of the American Indian, the finest series on the continent, and a wonderful plaque, eight inches in diameter, was found by Doctor Morley at Chichen Itza. In Argentine were found turquoise beads, flat and round. There is a plaque of lignite, two inches in width, inlaid with four pieces of turquoise brought from Pueblo Bonito by the late George H. Pepper. Another interesting example is turquoise set in wood by means of piñon gum for earrings. Then, too, there are small beads of wood 30 mm. by 10 mm., inlaid on both sides with turquoise.

Emeralds. Hundreds of thousands of emeralds must have been taken from the Colombian mines and large quantities were shipped to Europe; in one instance, three cases were lost at sea. A vast amount of emeralds were taken from the mines of Bogota and shipped to Europe and then on to India, by the great John Baptist Tavernier, the famous traveler, who traded them; nearly every ruler in India had some of these, where they became known as Indian emeralds. The imperfect ones were engraved and the more perfect ones were kept by the Spaniards. By engraving the imperfect ones the defects were hidden. Probably these were either taken from the natives or were traded with them; and when King Thebaw abdicated, the emeralds were taken to the Indian Museum in London. The great salve box of over nine ounces in the Vienna Collection—mounted after a design by the great Cellini—is a Colombian emerald.

Chipping. A wonderful piece of chipping is a quaint object of volcanic rock with seven plugs, about ¾ inch in diameter, of gray material, which measures 17¼ inches from end to end. This is chipped on the edges.

Then there is a lance 19½ inches long, beautifully chipped. It is very thin at the edges and about ½ inch thick.

There is also an ellipse of quartzite 15¼ inches long, wonderfully chipped, and of a darker color. These examples are all in the American Museum of Natural History.

In the American Museum of Natural History and the Museum of the American Indian remarkable pieces of chipping are found in the arrowheads of the Indians in the vicinity of Oregon City on the Columbia River. In addition to these, pieces of chipping were found by the tens of thousands, some half an inch in length made of agate, agatized wood, chalcedony, and obsidian.

Catlinite. A material, although not of the precious stone variety, but which is as hard as malachite and which was used extensively is catlinite, which is found in Minnesota. This material, named after the Indian explorer who discovered peace pipes and similar objects made of it, is a red opaque substance, and from it were made the famous pipes of peace. All found in a deposit in Minnesota.

Garnets. Garnets were not used by the early Indians themselves, but were brought into use when travelers went to the Southwest and were found on the ant hills in New Mexico and Arizona.

Agates. The next subject of greatest interest is the agate. The Indians of both North and South America have shaped these into labrets to be worn in the lips and beads to be worn either alone or with jadeite or other materials. They have been found by the thousands in many localities.

Amethyst. An exquisite piece of amethyst is found in the form of a water beetle from Costa Rica, measuring about 2 cm. long and 1½ cm. wide, drilled at right angles on the back with two holes made so that it can be fastened to the garment; this is in the American Museum of Natural History.

Amazon Stones. Amazon stones—the green microcline feldspar—were used to make amulets.

Rock Crystal. A crystal skull 3 cm. wide, 3½ cm. long, and 3 cm. thick, carved in a primitive manner, reminds one of the great rock crystal skull—almost life size—brought from Mexico to the United States by the late Eugene Boban, coming into the possession of the late Mr. C. E. Sisson, then to Tiffany and Company, and then to the late Doctor John Evans, the greatest archaeologist of England. This weighed about ten pounds. It is now in the British Museum.

Quartz. Quartz crystal pendants, unworked, two to three inches long, were found on Santa Rosa Island, California; one with a bitumen handle was probably used for divination.

Rock crystal and transparent quartz were believed to have potent qualities and were used by the medicinemen of prehistoric times. Rock crystal arrow points are often found in the southern United States.

Carnelian, Rock Crystal, and Amethyst. On the Island of Santa Marta in the Caribbean Sea many hundreds of pieces of carnelian and rock crystal were found. They are also said to have been found by the thousands along the shore of the Magdalena River in Colombia. On the Island of Montserrat, beads of carnelian and amethyst, as well as rock crystal were found. They were also found in the Lesser Antilles. Rock crystal beads were also found in Rio Mataze, Department of Navino, on the coast of Colombia; a fine series are shown in the Museum of the American Indian.

Lapis Lazuli. There are beads of lapis lazuli, cylindrical in shape, and pierced the entire length in the Museum of the American Indian. These are 25 by 8 mm. This is remarkable because in the Andes today great masses of this material are found and are being developed by modern methods. A mining company has been started and already masses weighing from a hundred to a thousand pounds have been found. These are pale blue, containing great streaks of white limestone and are not the rich blue color of the oriental lapis lazuli.

Pearls. The great collection of American pearls found in the Ohio Valley in the Hopewell mounds in Ohio, where there are several, at least two bushels of pearls, had all the appearances of having passed through fire, possibly at the burning of the individuals with whom they were buried. There was a most astounding earring of meteoric nearly two inches across and in this some peridot was found. These early pearl finds rarely had any value whatever. The Ohio Valley and Arkansas are very prolific in pearls. Extending from Pittsburgh through Ohio to the Indiana River to the Arkansas River, this territory has produced several million dollars' worth of pearls.

Pearls were found in 1856 in Notch Brook, Paterson, New Jersey. One pearl weighed 93 grains and was sold to Tiffany and Company for fifteen hundred dollars, then to the Empress Eugenie, then to Henzel von Donnersmark, and then to the late King of Saxony.

Abalone pearls, one 1½ by 1 inch, in quaint forms were found on San Miguel Island.

Two other pearl finds of importance were: in Etowah, Northern Georgia, consisting of about ten thousand pearls and between three and four thousand pearls found about a hundred miles northeast of St. Louis on the Illinois River. Both of these are credited to Doctor Warren K. Moorehead.

Pyrite. One of the most remarkable pieces of lapidary work is a pyrite mirror 3½ inches in diameter made of about twenty pieces of pyrite, which although irregular, are fitted so exactly as not to mar the effect. This may be seen in the Museum of the American Indian, along with three other large mirrors which are perfectly plain, although in Mexico there have been found masses of pyrite with a mirror on one side and the reverse side engraved in native designs.

Meteoric iron was found in Taluca, Mexico, and one example had in it a broken copper chisel. It is possible that this meteoric iron was beaten up and may have been used in some of their carving and engraving.

There is no doubt but that great structures were erected out of stone which was obtained from parallel seams by splitting the rock. Great stone temples were erected in Peru and in Chichen Itza, Yucatan and probably elsewhere by splitting the rock in seams by chisels or wooden pegs moistened to split the rock.

American Museum of Natural History,
New York City.

ANCIENT PUEBLO SUBSISTENCE

By Walter Hough

IN the course of Doctor A. V. Kidder's studies leading to the classification of Pueblo cultures and their arrangement in chronological sequence he brought out the fact that in the period of the greatest growth, several centuries before the Conquest, a profound decay set in. The great pueblos, which were the result of the coalescence of the widespread small-house units over a long period, became tenantless, fell into ruins, and whatever survivors there were dissipated to other surviving social groups. A sudden decay is not indicated, but this phase appears to extend from about 1000 A. D. to the present, being observed now in the gradual wasting away of these picturesque Indians.

In the decay, submergence, and extinction of societies there have been sought causes adequate to produce results of such magnitude. At the present state of research it is not possible to assign causes to what seems from reiteration of effects to be a normal phenomenon or law of nature. Present research is not satisfied with an attitude of fatality in regard to the rise and fall of peoples, but must and will increasingly try at least to find the causes even if the remedy is unattainable.

Doctor F. L. Hoffman can give us the plus results in the endeavor to extend the length of life in enlightened times, which show us that while the minus results still preponderate as to the bulk of individuals, there is hope that here is the key to the life extension of nations.

The sanitary advantages of the Pueblo region are shown by the practical absence of molds, bacteria, and other life flourishing in dampness. The activity of the air is also notable. In general terms, we have here a sterilized environment rich in violet rays, a region in which the health of the population would be reasonably assured.

It may be considered as not proved that the abundance of alkaline constituents in the earth, water, and presumably in animal tissues would counter-indicate osseous failures. It is a fact nevertheless, Doctor Hrdlička informs me, that the skeletal material from the Southwest is singularly free from traces of disease or malnutrition in adults and I have observed this in my excavations during the last thirty years.

Incidentally, there is no evidence of meteorological or geographical changes in the region during the period of its occupancy.

It is not difficult to ascertain the materials entering into the subsistence of the ancient Pueblo, as conditions in the region have changed little during the human occupancy. Pueblo economy also has been perpetuated by the less modified groups of the Hopi and Zuñi, so that a knowledge of their domestic life is easily accessible. Especially for the Hopi there is at hand practically complete material for a publication on the food supply, methods of gathering and preparation, etc. As an avenue of approach to this question it is thought that as a basal feature the subsistence of the Pueblo might yield some clue to the matter of the viability of these Indians.

It is well known that the fauna of the Southwest was abundant previous to the advent of hastened erosion due to grazing. Within fifty years enormous herds of antelope found abundant pasturage on the plains and corresponding numbers of deer were seen in the higher areas. A generation ago Indian informants gave accounts of the abundance of grass and other forage and the prevalence of animal life. At the same time there were traditions of starvation among the western Pueblos owing to successions of dry years not always fitting in with the good old times of plenty.

Necessarily we are entitled to assume there have always been local meteorological mutations that affected man as well as animals. It is possible to say from observations extending over half a century that beyond the white man's industrial period the distribution of animal life varied with the unproductive seasons characterized by drought.

We know also that during the historic period some animals were affected by epidemics. Antelope herds north of Holbrook, Arizona, were almost swept away about forty years ago by a disease said to have caused fatalities among those who ate of the flesh of the animals. Unfortunately, there is no description of the symptoms of the malady and it is only possible to suggest tularemia or some analogous disease.

The bones of animals gathered from the débris in excavating ancient ruins provide the safest evidence of the animal food supply. This was not carried out in former explorations, the first serious work of this character being prosecuted by the writer during the excavations by Doctor J. Walter Fewkes at Homolobi, Arizona, in 1896.

Information gathered from modern exploration shows that deer and rabbits were the chief food animals used by the Pueblo. The deer was really the Pueblo culture animal, supplying meat, sinew, bone, horn, and skin, most valuable materials in Pueblo economy. Rarely are traces of the elk found, although there is evidence of a wide distribution. Mountain sheep and bear bones are very rare in the house débris. Bones of the dog, porcupine, raccoon, fox, badger, prairiedog, and small rodents are relatively frequent. Bones of the turkey and other birds are found, but judging from modern taboo the ancients did not eat birds.

It is concluded, therefore, that the deer, antelope, and rabbit formed the chief meat supply of the ancient Pueblo Indians. At best the meat supply would make but a small portion of ingested food.

Aside from maize, the only cultivated food plant of the ancient Basket Makers was squash. Beans came in much later with the Cliff Dwellers and other Pueblos. These staples formed an excellent combination as a food supply on which one may predicate a regular increase of population not practicable with the wild-land plants of the earliest tribes characterized as desert nomads.

The introduction of maize into the Pueblo region was an epochal event. Coming in the second Basket Maker period, its effect is apparent in improvements in culture over the pre-agricultural tribes which had lived a nomadic life in the semi-arid country frequently called a desert. There begins a more static life enforced by agriculture. Since the crop cannot be hidden in the Southwest as in the South American jungles, where maize-growing tribes wander at times while the corn matures, the Basket Makers were forced to stand by.

With maize are associated cooking and other vessels of pottery and primitive mills for grinding the grain. Previously the primitive cooking by roasting was practised.

The development in the preparation and cooking of maize, as evidenced in the methods of the present Pueblo, was remarkable and compared with that of rice, wheat, and other Old World cereals. The Siamese are said to have seventy ways of cooking rice and the Pueblo appear to have known as many for preparing corn food. There also appears to have been no inadequacy of cooking methods in the concoction of palatable and digestible food at any period.

It is obvious that the development of cooking went through its regular course in this region, *viz.,* the Basket Makers I would prepare their animal food by roasting over the fire, and vegetable food, such as grass seeds, by roasting with hot stones in a basket. With Basket Maker II pottery would introduce boiling, and there would follow baking, with many forms of bread food.

In conclusion, it may be said that an estimate of the constituents of the diet of the ancient Pueblo gives 85 per cent cereal, 5 animal, 9 vegetal (non-cereal), and 1 mineral. This, granting a continuous supply, would indicate a balanced ration adequate for adults, but showing a fat deficiency. In general, it indicates nothing on which to base conclusions as to decline of population.

Several conditions, however, militate against uniformity of diet throughout the year. In winter the diet lacked in fat and vitamin, falling more severely on children. Infant mortality was probably an important cause of the decrease of population.

Apart from the advantages of the concentration of population in large pueblos stands the rapid exhaustion of the natural food supply as well as fuel from the immediate environment. The lack of fuel no doubt caused insanitary huddling in dark rooms of the pueblo in winter, this matter again falling heavily on children.

United States National Museum,
Washington, D. C.

PUEBLO BONITO AND ITS ARCHITECTURAL DEVELOPMENT

By Neil M. Judd

PUEBLO BONITO is a prehistoric Indian village situated in Chaco Canyon, northwestern New Mexico. The National Geographic Society pursued annual investigations in Pueblo Bonito from 1921 to 1927 with the result that the ancient settlement has been laid bare and much of its history recovered. From its archaeological record, we judge the village to have been abandoned approximately one thousand years ago. Its builders and former inhabitants have not yet been identified with any living Pueblo people.

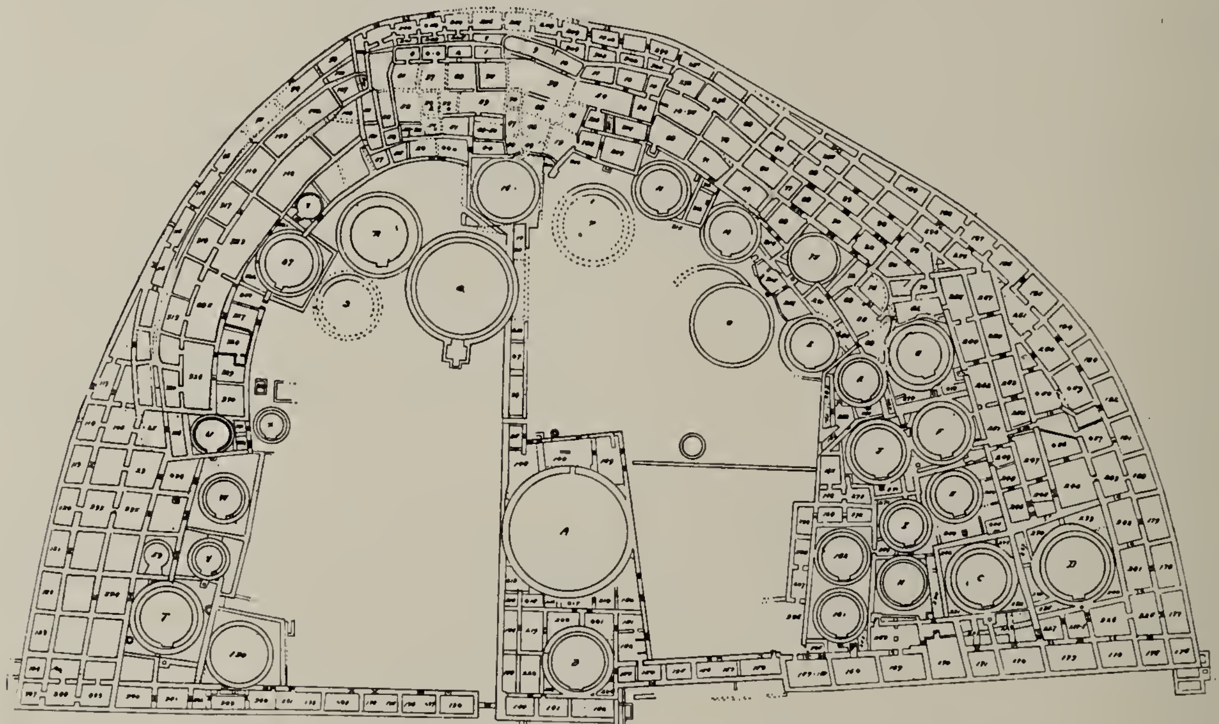
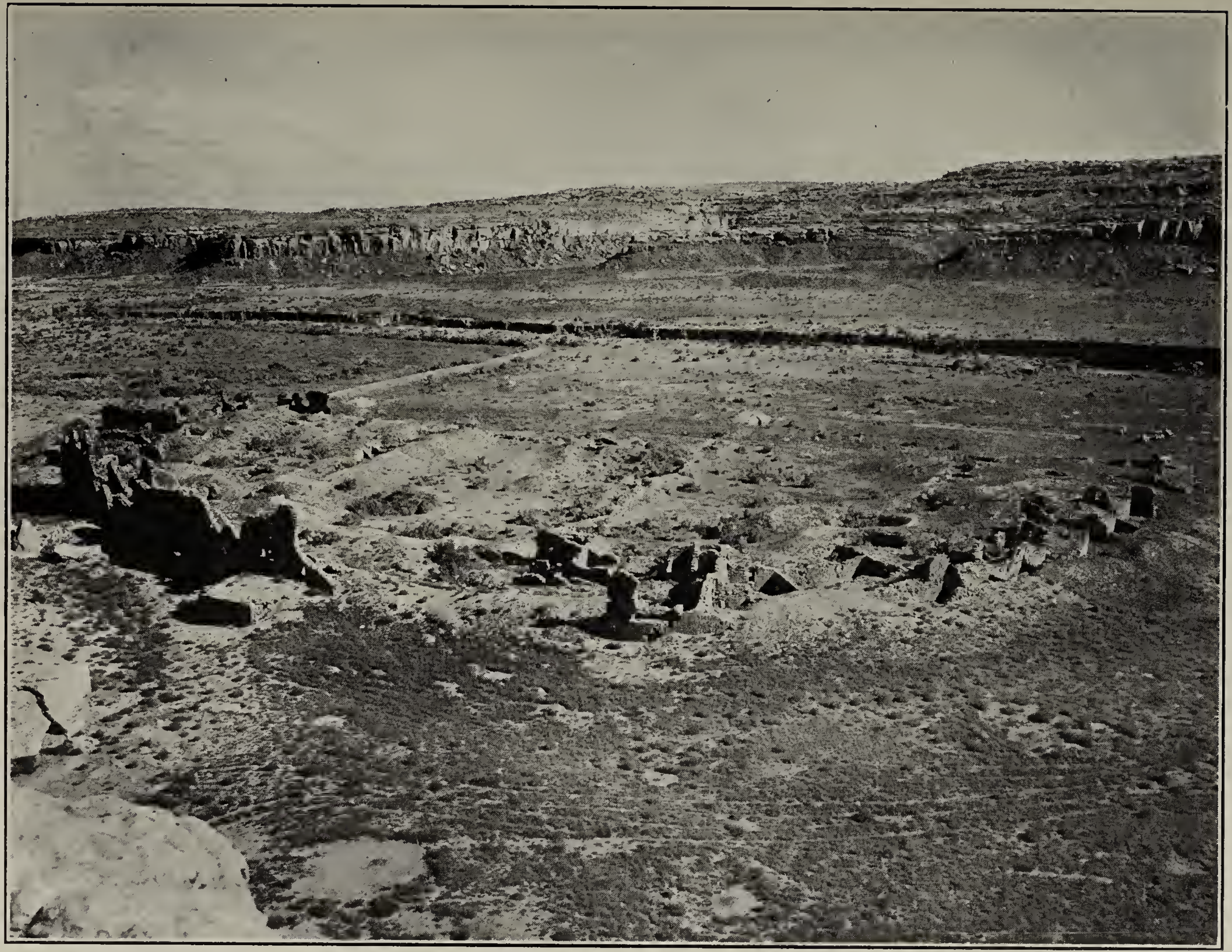


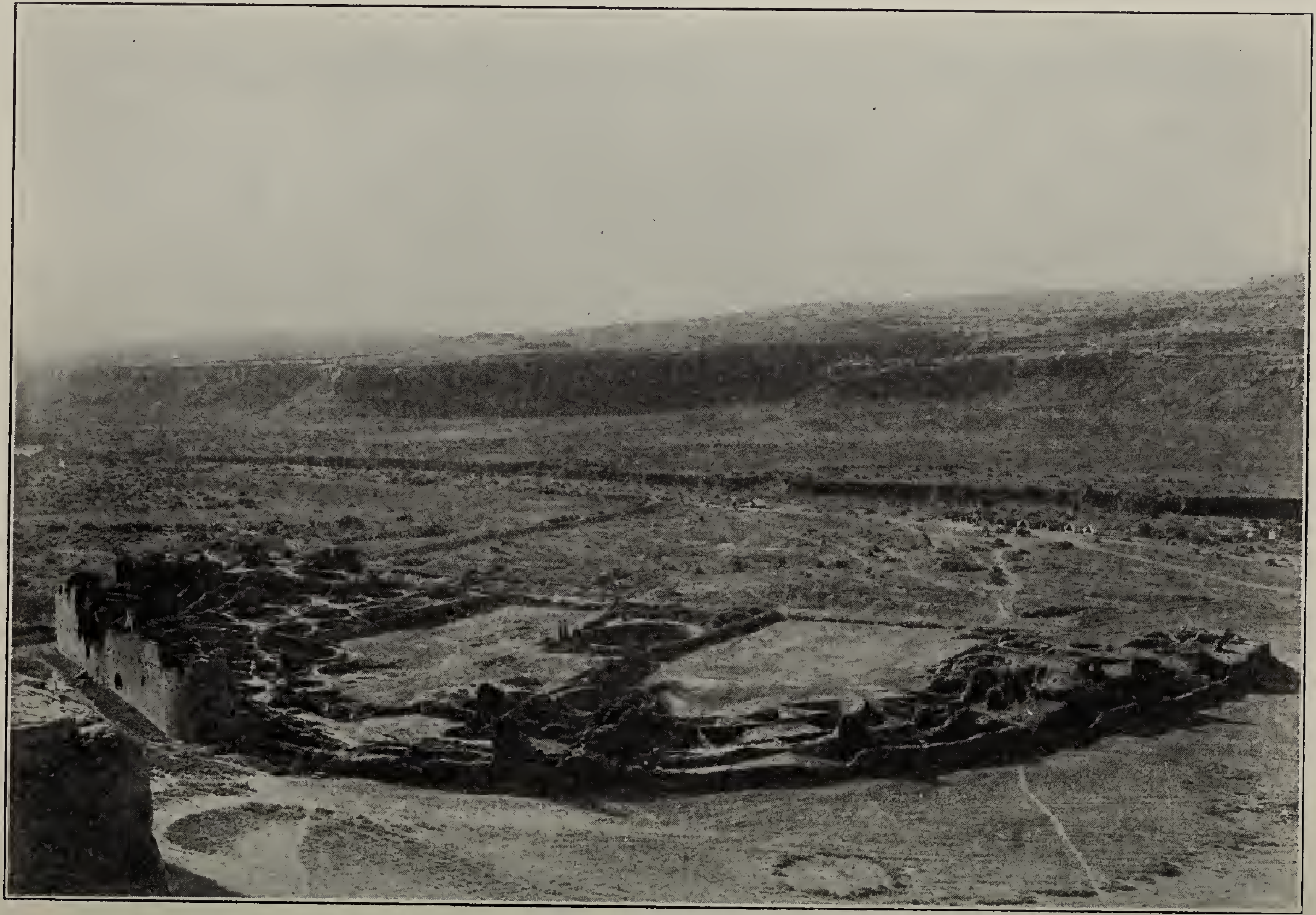
Fig. 1—groundplan of pueblo bonito

We think of Pueblo Bonito as a village, and so it is—a whole village within a single building, semicircular in plan, and covering more than three acres of ground. The straight south side of this communal structure measures 518 feet in length; in its convex north wall, portions of fourth-story rooms still stand. We may infer that, in its heyday, Pueblo Bonito included approximately eight hundred rooms and sheltered a population of between twelve and fifteen hundred. These were Indian farmers; they cultivated maize, beans, and squash in neighboring fields, watered chiefly by midsummer floods. The Bonitians had no beasts of burden, no domestic animals other than turkeys and dogs, and no objects of metal except small copper bells introduced through commerce from Mexico.

Omitting from our present theme all consideration of their remarkable cultural achievements, we may note that the occupants of Pueblo Bonito included



PUEBLO BONITO AS IT APPEARED IN 1921, AT COMMENCEMENT OF THE NATIONAL GEOGRAPHIC SOCIETY'S EXPLORATIONS. (PHOTOGRAPH BY COURTESY OF THE NATIONAL GEOGRAPHIC SOCIETY.)



PUEBLO BONITO AT CLOSE OF THE 1924 SEASON, BEFORE EXCAVATION DISCLOSED THE EXTENT OF SUBFLOOR AND SUBCOURT WALLS RELATED TO EARLIER PERIODS OF CONSTRUCTION. (PHOTOGRAPH BY COURTESY OF THE NATIONAL GEOGRAPHIC SOCIETY.)

two distinct peoples. These were entirely unrelated; they were emotionally unlike, despite the basic similarity of their respective cultures. Culturally, one of the two had advanced far beyond the other. So wholly obvious are the differences in their architecture—and the product of their minor industries differs in equal degree—that we are seemingly justified in assuming these two peoples actually spoke different languages. Yet, they dwelt together here, in apparent harmony, for many generations.

The first of these two groups, the actual founders of Pueblo Bonito, had built for themselves a composite, terraced structure and had occupied it for a considerable period before the second group came to join them. It was this latter group, soon to dominate the settlement, that subsequently brought fame to Pueblo Bonito and created for it a prestige, the influence of which was felt as far away as the Pacific Coast and even the valleys of central Mexico. The first group produced a single kind of masonary; the second, more progressive, created three kinds.

These four types of stonework, the most noticeable feature of Pueblo Bonito's evolving architecture, enable us to trace the growth of the community and gauge the part played by each of the two component elements in its population. The four methods of construction may be described briefly, as follows: The first—and I would repeat that this was employed exclusively by the original settlers—consists of rather large tabular sandstone slabs, usually chipped on the edges, and laid in an abundance of clay mud. (Pl. III, Fig. 1.) The second type, which is that first utilized by the newcomers to Pueblo Bonito, is characterized by sizeable though irregular blocks of soft, friable sandstone pecked or rubbed smooth on the face only and chinked with innumerable spalls of harder, darker, laminate sandstone. (Pl. III, Figs. 1 and 2.) The third type, developed from the second, features the same carefully dressed blocks of friable stone, but laid in bands a foot or more apart and separated by close-lying laminate fragments about one inch thick. (Pl. IV, Fig. 1.) In the fourth method of construction the dressed blocks were entirely eliminated, laminate sandstone being exclusively employed. (Pl. IV, Fig. 2.)

Now masonry of the kind first mentioned was built with stones approximating the wall thickness and their irregular, chipped edges were unevenly covered by a thick layer of clay plaster, pressed into place by the finger tips of the builders. This was the characteristic stonework of the original settlers; it did not change perceptibly throughout their residence in Pueblo Bonito. In marked contrast, every wall erected by the second, or later, group consisted of two finished faces with a core of rubble and mud. No other tribe in the United States surpassed these people in constructional ability. Their three successive types of masonry exhibit a perfection of workmanship—even a feeling for the esthetic—rarely observed elsewhere. Yet, except in inner rooms utilized for storage, they covered this perfection and beauty with thin adobe plaster. Because of their superior construction, because so little of their mud mortar was exposed to moisture, these later walls stand today as the best in Pueblo Bonito, or the whole Southwest for that matter.

Even in ruin, the old, original village is easily separable from the remainder of Pueblo Bonito. These older rooms varied in size and ceiling height; their walls were unsystematic and of unequal thickness. There were no external, first-story doors in this earlier building; its lower roofs were reached by means of ladders which could be withdrawn in case of attack. Within the terraced structure, however, the rooms connected one with the other. Additions necessitated by the normal growth of population resulted in a house cluster of marked irregularity.

When the second group of people came to dwell in Pueblo Bonito they erected, among others, a single tier of houses that partially enclosed the old village and screened its eccentric rear wall. Compared with those they adjoined, these newer dwellings were surprisingly uniform both in shape and size. They stand on a level from four to six feet above that of the older buildings. Besides openings into the adjacent chambers, each room—even those of the second and third stories—was provided with an external door, but these were later blocked and plastered over. Willows, smoothed with infinite patience, rested on selected pine poles to form the ceilings of these houses, in contrast to the brush and gnarled timbers utilized in the earlier chambers.

With introduction of the third masonry type, Pueblo Bonito witnessed a period of comprehensive reconstructional activity. The larger proportion of rooms erected by the second group upon their arrival were demolished and replaced; the plaza where public ceremonials were performed was enlarged and divided. All the extramural developments associated with the community—walls enclosing the two great refuse mounds; foundations to support the detached cliff that threatened to topple upon the village, etc.—contain masonry characteristic of this epoch. The settlement expanded both to the east and west; dwellings were razed with apparent disregard for the human labor involved in their construction or replacement. It seems quite reasonable to suppose that the Bonitians at this time were experiencing their maximum of power and influence. Macaws (*Ara macao*) from the lowlands of Mexico and shells from the California coast were brought by Indian traders on foot and exchanged for the turquoise of Pueblo Bonito. But throughout this period of local development and far-flung commerce, the old conservative group continued to live in their corner of the great communal settlement, almost wholly uninfluenced by the superior arts and industries of their immediate neighbors. Even after the second group withdrew from the village and moved elsewhere the original Bonitians tarried for a time in their primitive homes, pursuing their daily tasks in the manner to which they had long grown accustomed.

The fourth, and final, method of stonework is largely restricted to the southeastern quarter of the pueblo. But this last addition represents a compromise between dominant personalities in the community. Plans for a considerable addition to Pueblo Bonito were well under way when these plans were abandoned for some reason unknown to us and the fourth section substituted. Foundations for this contemplated addition had been extended to a point 500 feet beyond the easternmost wall of the village. Excavation reveals the interesting fact that this abandoned foundation series generally abuts walls of third type construction and immediately underlies those of the final period.

Except in that portion built and occupied by the original inhabitants, evidence of successive alterations is to be found throughout the settlement. Walls

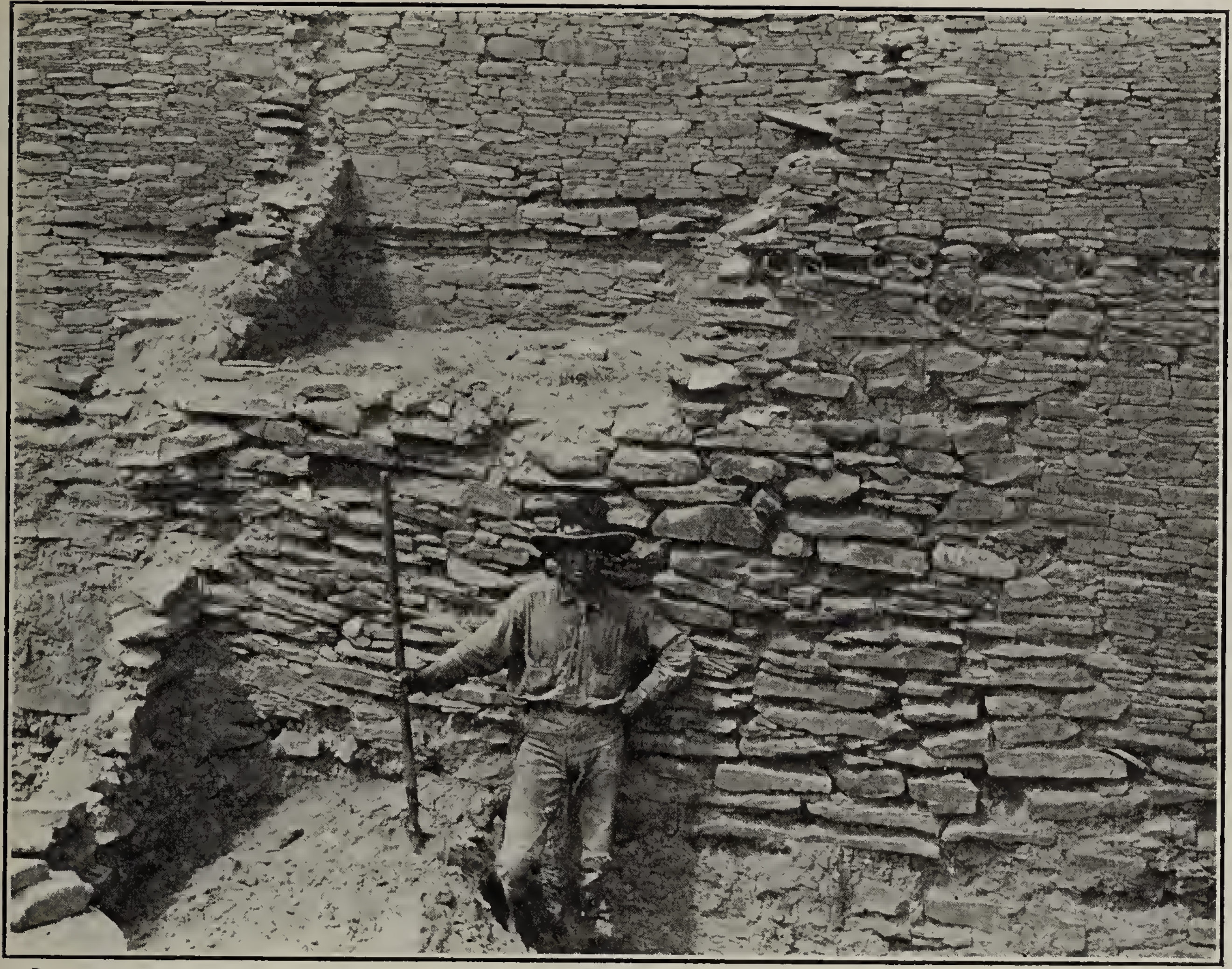


FIG. 1—THE INDIAN STANDS AGAINST A FIRST TYPE WALL; IN THE UPPER LEFT IS SECOND TYPE MASONRY; THE REMAINDER BELONGS TO THE THIRD PERIOD OF CONSTRUCTION. (PHOTOGRAPH BY COURTESY OF THE NATIONAL GEOGRAPHIC SOCIETY.)

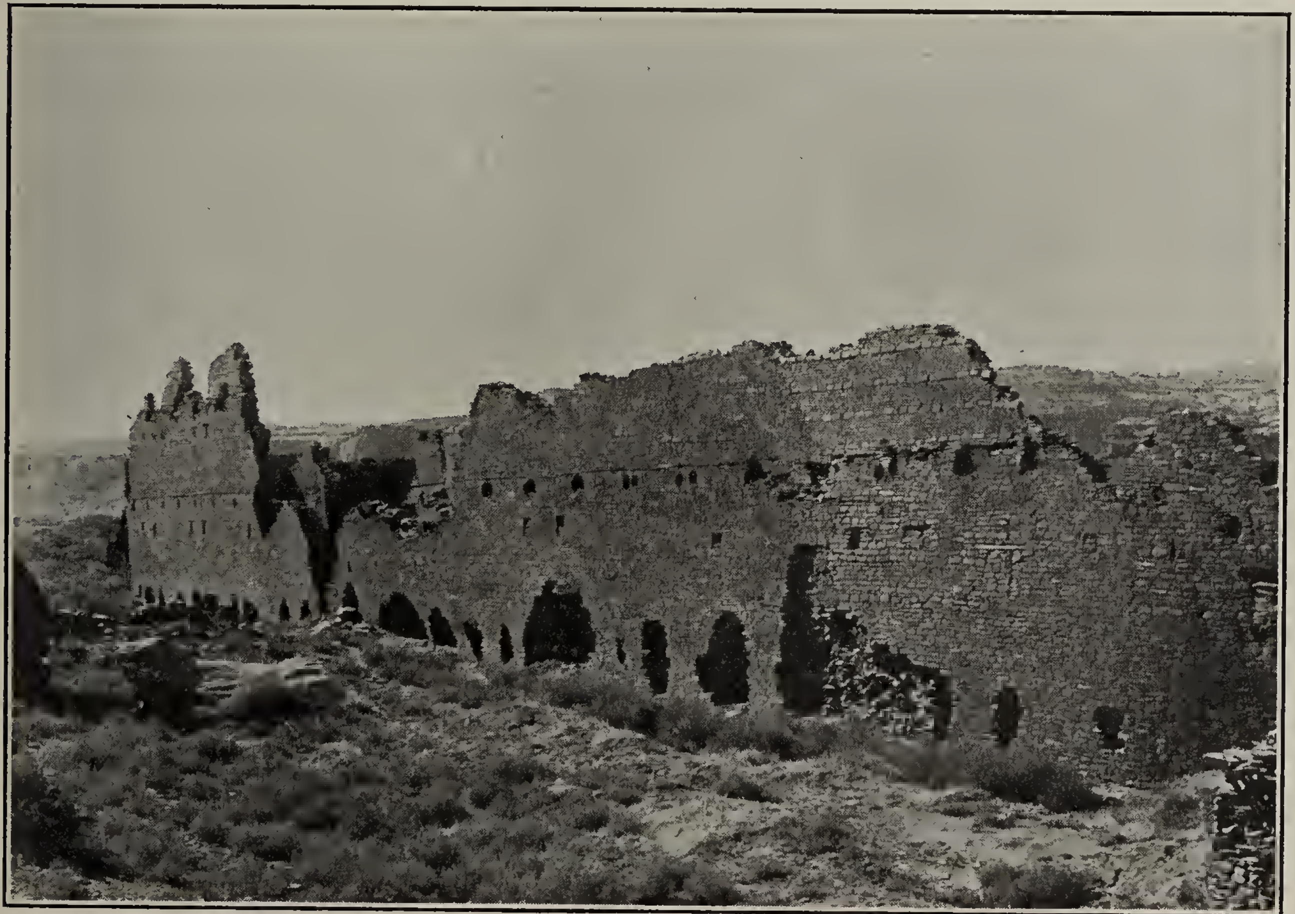
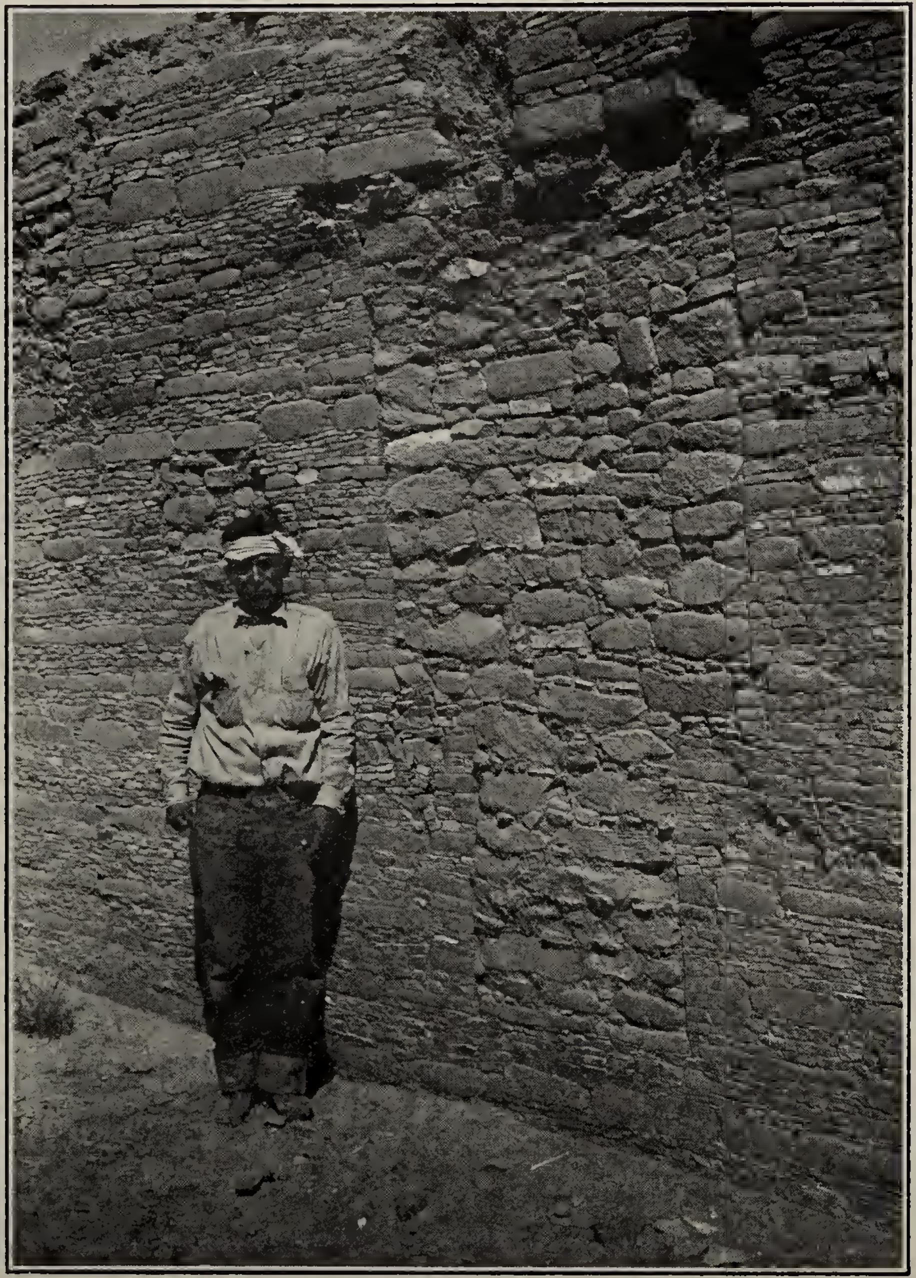


FIG. 2—THE OUTER NORTH WALL OF PUEBLO BONITO, SHOWING HOLES MADE BY VANDALS IN FOURTH TYPE MASONRY THAT ABUTS A SECOND PERIOD WALL (AT THE RIGHT) ABOVE WHICH STANDS A SECTION OF BANDED THIRD TYPE STONEWORK. (PHOTOGRAPH BY COURTESY OF THE NATIONAL GEOGRAPHIC SOCIETY.)



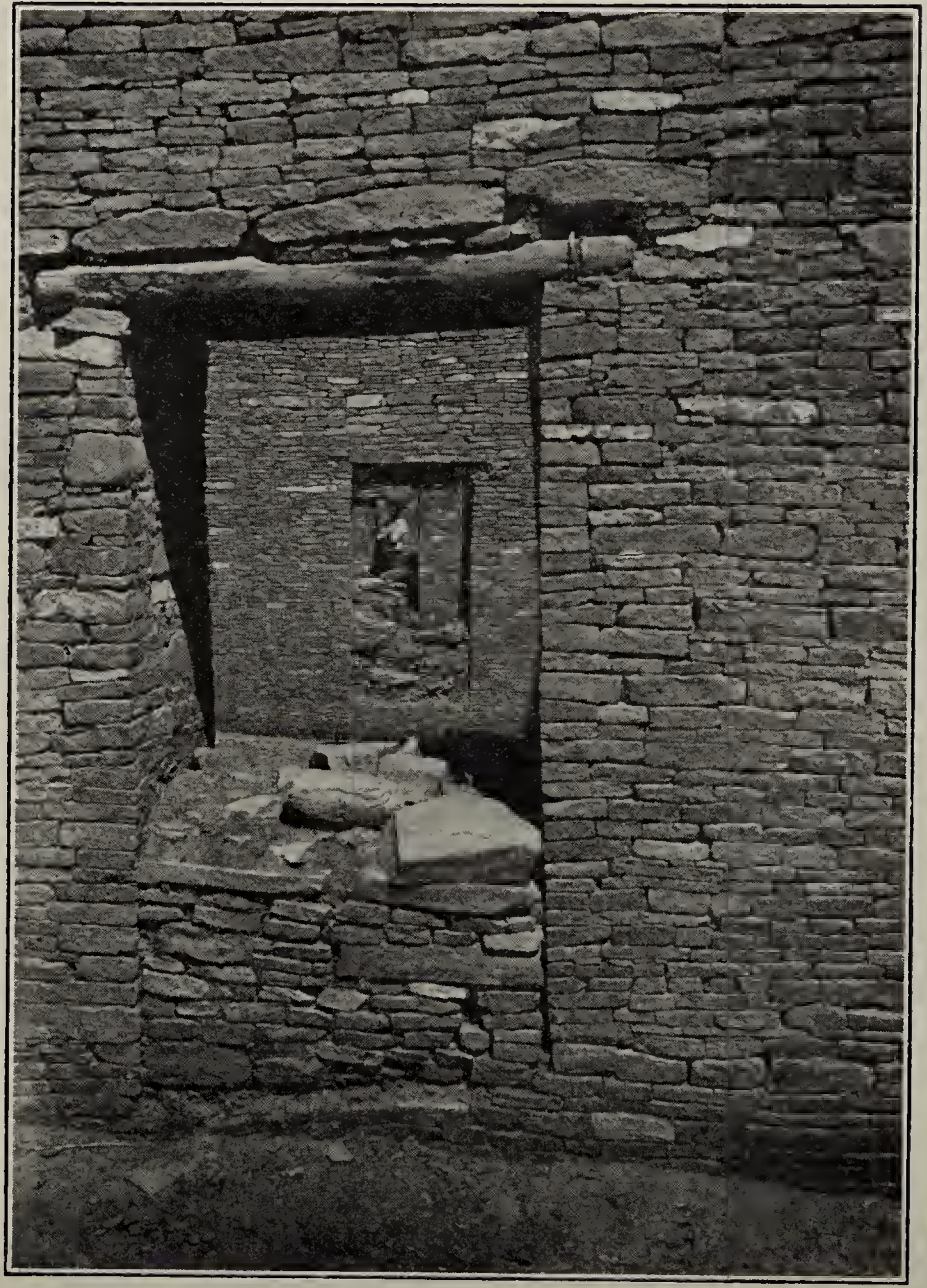


FIG. 1—A WALL OF SUPERIOR THIRD CONSTRUCTION, SHOWING A BLOCKED T-SHAPED DOOR OF UNUSUALLY LARGE SIZE.
FIG. 2—FOURTH PERIOD MASONRY IN THE SOUTHEAST QUARTER OF PUEBLO BONITO WITH DOORS THAT CONNECT THE ADJOINING ROOMS.
(PHOTOGRAPHS BY COURTESY OF THE NATIONAL GEOGRAPHIC SOCIETY.)

were torn down and replaced; dwellings gave way to circular ceremonial chambers. These latter, ritualistically subterranean and preferably situated at the plaza edge, occasionally encroached upon the secular rooms. In such instances, the walls separating a block of four adjacent dwellings would be razed, the usable stone salvaged, and the lesser débris left where it fell. Upon such accumulations, the new ceremonial chamber would be constructed, its required subterranean position being simulated by the relatively greater height of the surrounding walls. Beneath the houses and beneath the two public courts, foundations and partially razed walls evidence the extent of reconstructional operations during the long continued occupancy of Pueblo Bonito.

In the original village there were no external, ground floor doorways, but such entrances were provided for those dwellings first erected by the second group of inhabitants—entrances which subsequently were closed and plastered over. Now in rooms of third and fourth type masonry, lack of external doors is again noticeable; even the small ventilators, placed high in the walls, were reduced in size or closed completely. (Pl. III, Fig. 2.) From these facts, together with other evidence disclosed during the course of the National Geographic Society's explorations, we may infer the prehistoric Bonitians were subjected to pressure from nomadic tribes and that the village folk were prompted, from time to time, to increase the impregnability of their communal home. Sporadic warfare, together with altered agricultural conditions, appear to have forced abandonment of Pueblo Bonito approximately one thousand years ago—an estimate now being confirmed through study of annual growth rings in timbers salvaged from the ruin. These "tree-ring" studies, in charge of Doctor A. E. Douglass, of the University of Arizona, bid fair to establish our first actual chronology in the archaeology of the United States.

A report covering the seven successive seasons of field-work at Pueblo Bonito is in preparation; its publication should contribute materially to our knowledge of that period in which Pueblo peoples reached the very zenith of their civilization in pre-Spanish times.

UNITED STATES NATIONAL MUSEUM,
WASHINGTON, D. C.

NOTES ON THE MIDDLE CULTURES OF MIDDLE AMERICA

By George C. Vaillant

THE so-called "Archaic" cultures in Middle America are not primitive. The term "Archaic" is, however, well established in the literature; but by its implication of coherence and unity it makes imprecise our conception of Central American early archaeology. Chronological excavations in the Southwestern United States have taught us something of what "primitive" means in the sense of early culture groups. Hence, however correct philosophically the idea of an "Archaic" mother culture for Central America may be, archaeologically it is not consistent with such material remains as pyramids, several kinds of pottery, and a plastic art suggestive of centuries of experimental endeavor. Furthermore, from site to site there are typological differences that are not indicative of unity.

I propose, therefore, to use the term "Middle Cultures" in the place of "Archaic," which indicates that, before the appearance of the cultures under discussion, there were antecedent manifestations. Doctor Spinden in his excellent hand book, the *Ancient Civilization of Mexico and Central America,* gives a precedent for this term in referring to the Aztec and Maya as High Civilizations and Toltec, Cholultec, etc., as Middle Civilizations. One might refer to the different West Mexican culture groups called imprecisely Tarascan as Low Civilizations. Such a terminology predicates cultural development without overmuch implication of time. We are all familiar, furthermore, with the difference between the words *culture* and *civilization,* the latter obviously being a specialized development of a High Culture.

The Middle Cultures are found under several different circumstances:—

a. In sites of an antiquity demonstrable through geological conditions.
b. In open or surface sites but with material similar to that found in *a.*
c. In strata underlying those of later culture periods.
d. In open sites but with the material qualitatively between that listed under *a* and *b* and the material from the High Culture groups.
e. As an influence showing itself as an unclassifiable residue among material of known cultural position.

The Middle Cultures do not resemble each other closely except as against the violent contrasts afforded by the High Cultures. The unity of this manifestation, which the earlier investigators expressed, lies in the qualitative comparison between the High and the Middle Cultures. While we have not yet reached the point where we can specify distinctly the time-sequence and the ethnic characteristics of these groups, we can outline, perhaps, the situation of their study today, and the conditions which lead us into breaking up the "Archaic" into a number of individual entities grouped as Middle Cultures. Of the time-relationships there is little or nothing to say except in respect to the headings listed before as conditions of discovery.

Sites where material has been found under conditions of demonstrable antiquity are in the main those where volcanic deposits have sealed in the remains. At the Cerro Zapote, near the capital of El Salvador, Professor Lardé and Doctor S. K. Lothrop found potsherds and figurine heads under a thick deposit of volcanic ash (Fig. 1). The figurines were rude in execution but far beyond any stage that could be called primitive. The pottery in rim shape bears some of the characteristics of the Valley of Mexico ceramics but its chief decorative style is distinct, with black paint on an orange slip, sometimes perhaps, in lost color.

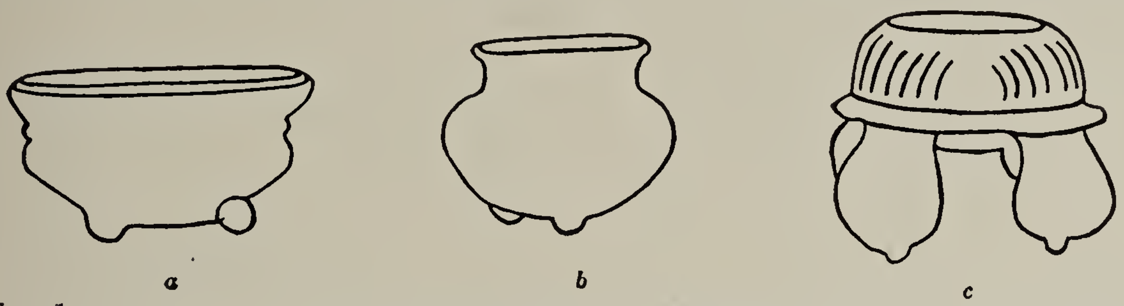


FIG. 1—SALVADOR POTTERY, BLACK ON ORANGE, SIMILAR TO CERRO ZAPOTE SPECIMENS. *a–b*, SANTA ELENA; *c*, QUELAPA.

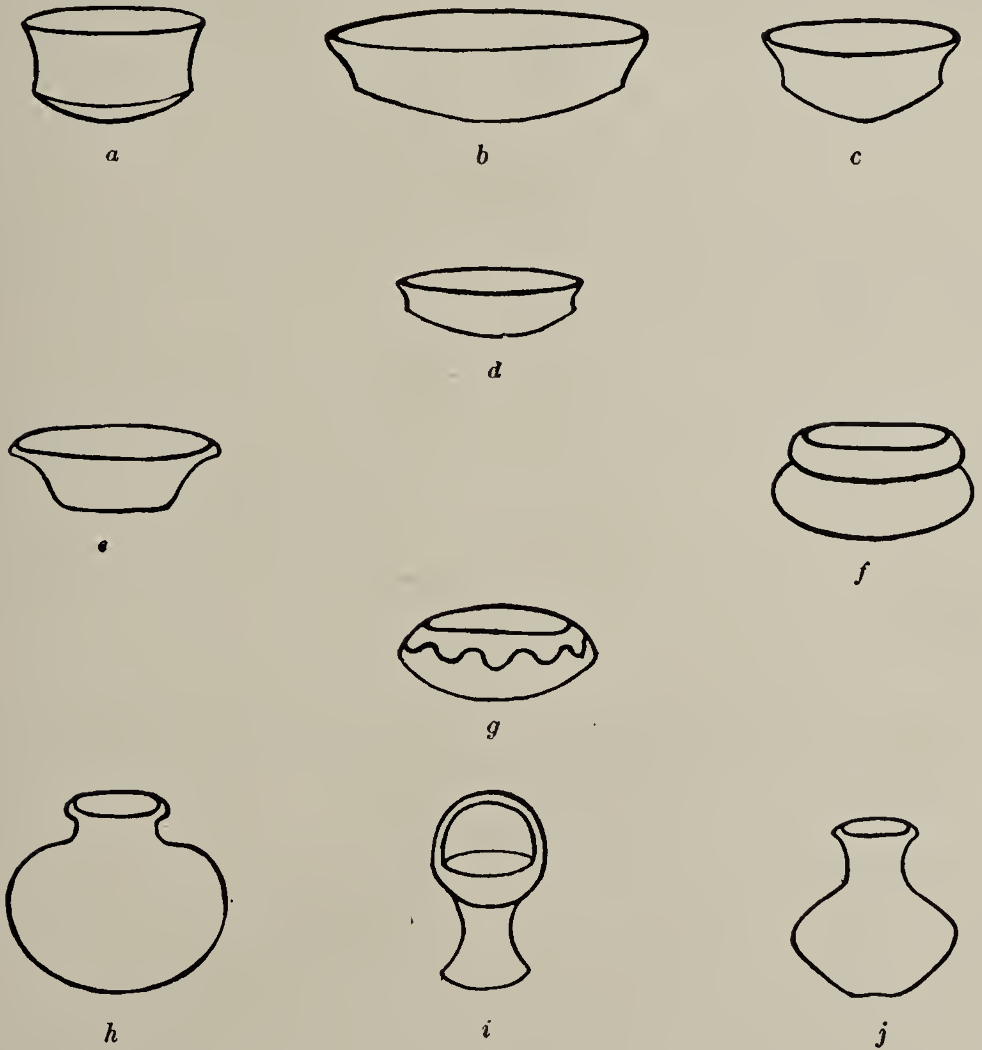


FIG. 2—MEXICO POTTERY. *a–g*, *j*, BLACK; *h*, RUSSETT; *i*, *white*. COPILCO, NEAR SAN ANGEL, MEXICO.

The famous site of Copilco, near San Angel, in the Federal District of Mexico, underneath the heavy lava flow of the Pedregal, yielded skeletons with funeral furniture accompanying them, buried into a bed of rubbish. The pottery (Fig. 2) is generally undecorated with a rare example of painting or incision. There are several wares. Two main figurine types occur, a round fat-faced style, and a flat type with elongated head.

Protruding through the lava only a few miles from Copilco, is the earth-covered pyramid of Cuicuilco. Since Doctor Cummings, who made excavations there, has not yet made his report, I can only say that none of the Copilco type of figurine (and very few of the pottery types) resembles the several forms found underneath the lava at Cuicuilco.

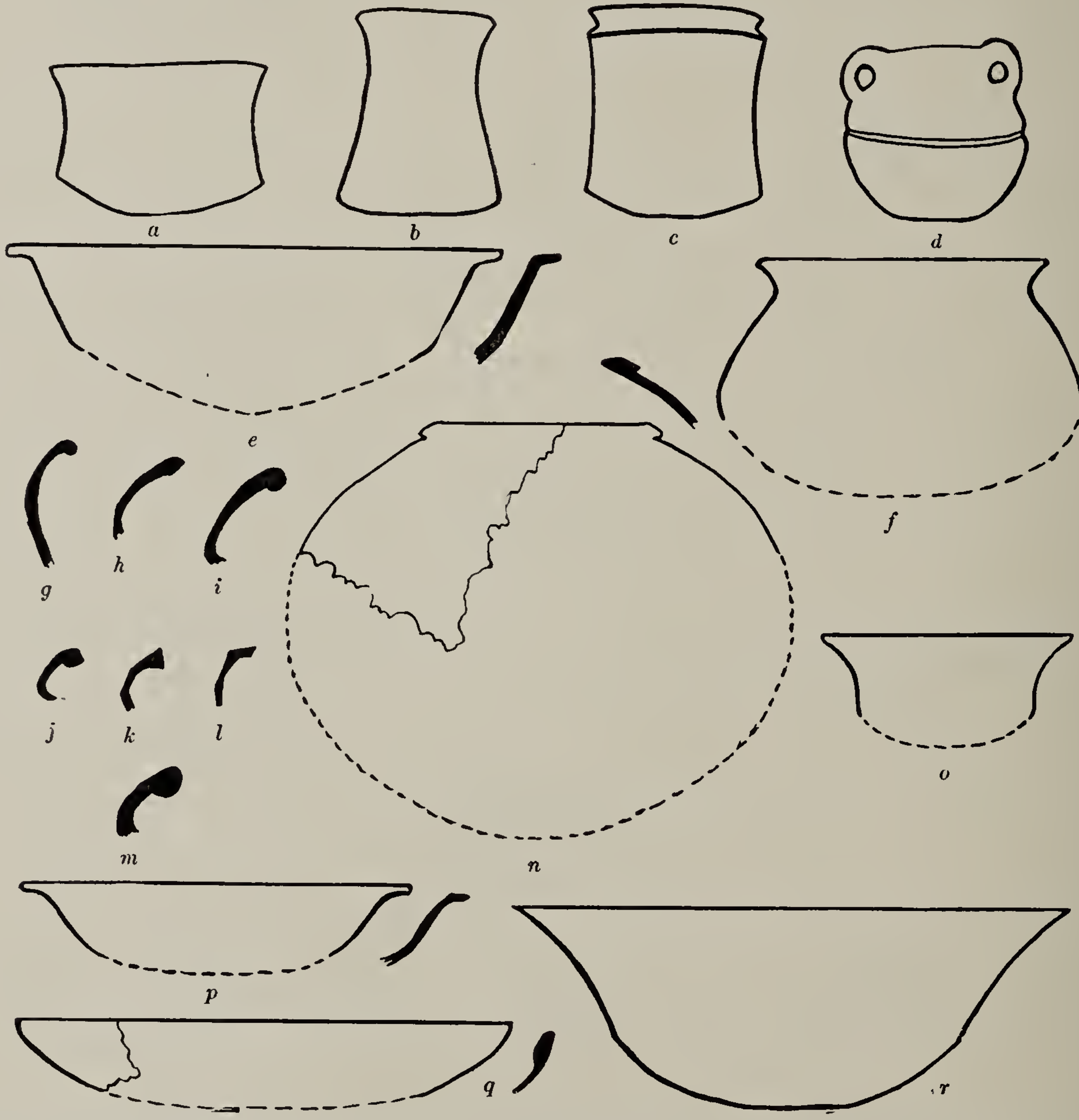


FIG. 3—MEXICO POTTERY. *a–d*, BLACK WARE, SAN JUANICO, D. F.; *e–n*, *r*, BAY WARE; *o*, BLACK WARE; *p*, RED WARE; *q*, WHITE WARE, TETELPAN, D. F.

That two sites so near together and covered by the same lava flows can differ so much in the artifacts is a condition explained better by time than by ethnic difference, since two such distinct cultures, one with enough man-power to build a pyramid, would not be likely to live in harmony cheek by jowl. The artifacts from the Salvador site, on the other hand, only by a gross generality, can be classed with the material from the two localities in the Valley of Mexico.

The adobe pits at San Juanico, also in the Federal District of Mexico, yielded material that was covered in by over twenty feet of loam. Mere depth of deposit naturally does not imply great antiquity. While the pottery from this site

(Fig. 3, *a–d*) is in the Copilco tradition, there is a great increase over the latter in the number of types of figurine, and an improvement in the decoration of the ceramic.

Many kinds of remains are found at Tetelpan (Fig. 3, *e–r*) in the hills southwest of Mexico City that, while generally on the surface, are identical virtually with those encountered at San Juanico.

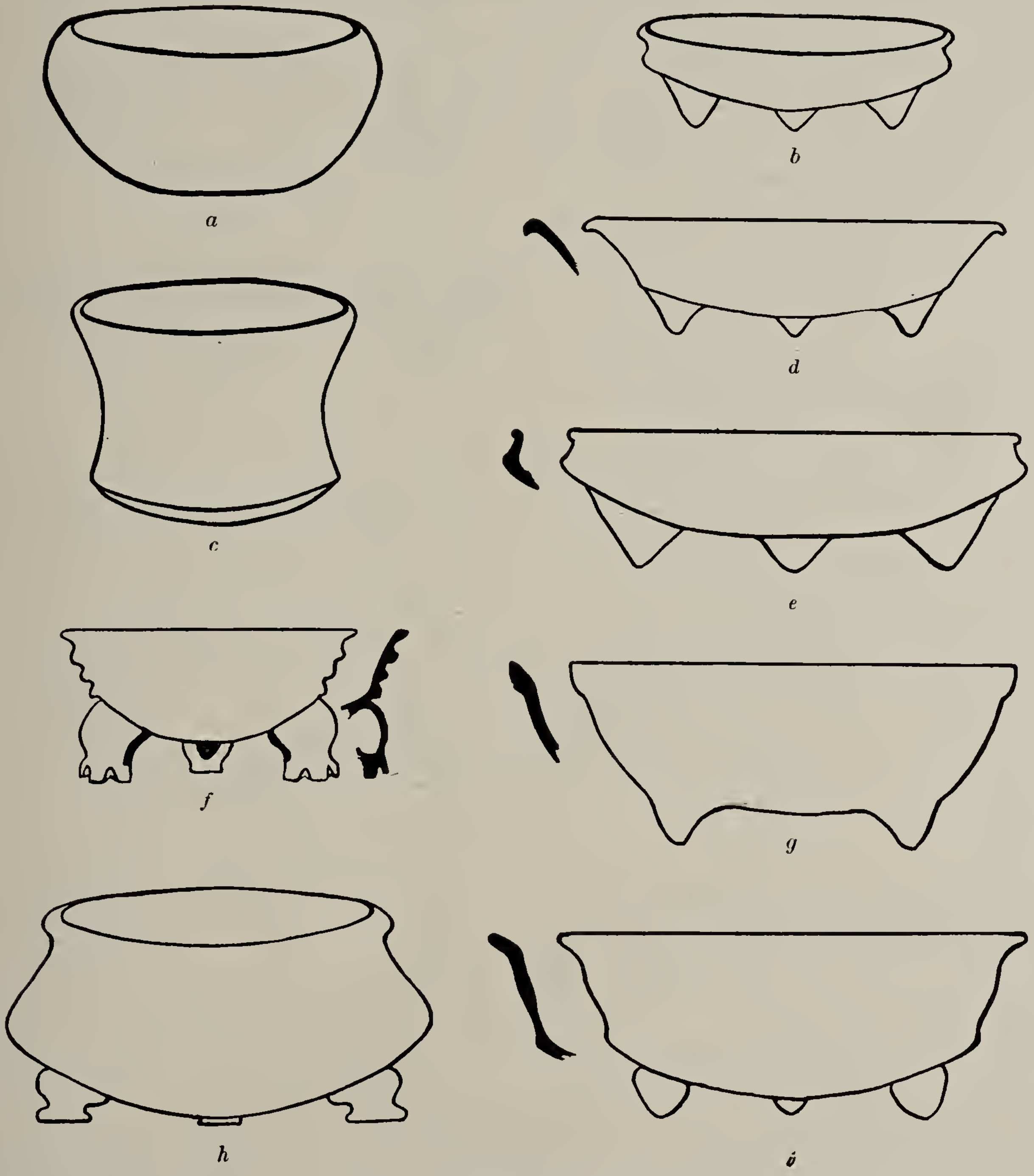


FIG. 4—MEXICO POTTERY. *b, e, f, h,* POLISHED RED; *a, d, g, i,* RED ON YELLOW; *c,* WHITE. ZACATENCO AND TICOMAN, D. F.

At Azcapotzalco in the Federal District of Mexico Doctor Gamio found a stratification where Aztec objects overlay Toltec, which in turn were superimposed over objects that were related to the finds just described. Such types as I have seen run through the full variation of figurines in the Valley. Little pottery has been collected from the region. While in some localities this material is found *in situ,* in most cases it occurs in the gravel of river beds, now silted over by several meters of soil.

Ticoman, Zacatenco, El Arbolillo, in the northwestern part of the Federal District, yield figurines that are thought commonly to be in the tradition of the so-called "Archaic." The pottery (Fig. 4) is, however, quite different from that of the sites previously described as producing material of considerable antiquity, in that the greater use of legs as supports for vessels and an increased number of sub-styles of wares and a difference in the silhouette of vessels are traits not found in the wares of Copilco, San Juanico, and Tetelpan.

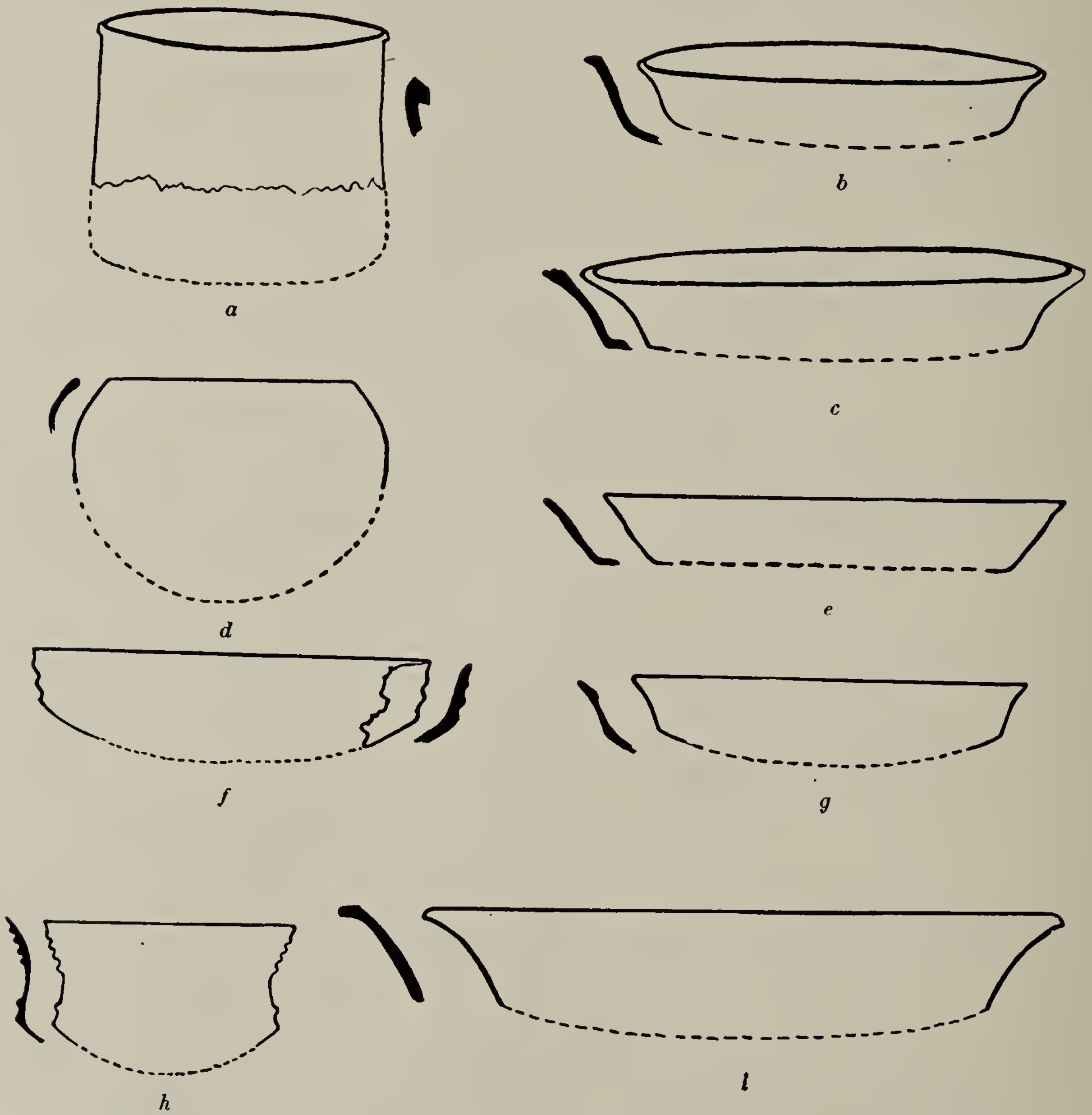


FIG. 5—GUATEMALA POTTERY. *a–c, e, g,* WHITE WARE; *f, h, i,* RED WARE; *d,* BROWN WARE. UAXACTUN, PETEN

A pottery related to these styles occurs on the surface associated with pyramids at several sites in Puebla. Not enough figurine specimens occur to assign them to any particular culture phase, but the pottery is somewhat more developed than that of Ticoman and Zacatenco although strongly in their tradition.

We have seen that even in the Valley of Mexico there is no homogeneity of the culture levels. The superficial studies already made permit the recognition of two strains of relatively high culture, to wit the San Juanico-Copilco group of material and the Zacatenco-Puebla style. We find with every implication of antiquity cultures removed from the primitive by the presence of pottery and figurines. These artifacts are crude in comparison with the later remains like Toltec and Aztec and though they take on a superficial appearance of cultural unity, it tends to disappear upon examination from a typological standpoint. Ceramic material like that found under circumstances indicating age occurs on the surface in many localities.

The material from Azcapotzalco that we mentioned might be listed under Group C, for the remains are found in strata underlying those of high culture. Another set of objects comes from the heart of the Pyramid of the Sun at San Juan Teotihuacan. The pottery and the figurines occupy a qualitative position that is transitional between Zacatenco-Ticoman and San Juan Teotihuacan.

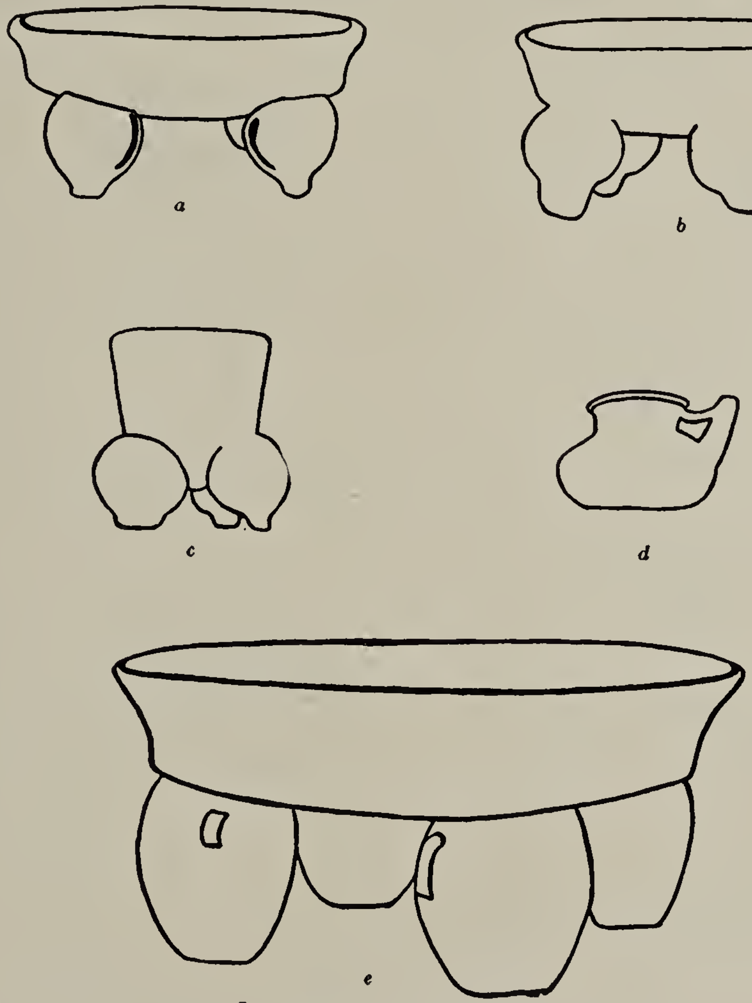


FIG. 6—GUATEMALA POTTERY. *a–b,* POLYCHROME WARE; *c,* RED WARE; *d,* HARD WHITE WARE; *e,* BLACK WARE. HOLMUL, PETEN.

We must pass now to the Maya area, to the Peten region, in order to consider two sets of pottery found underneath Maya remains. While these two groups do not throw very much light on the unrolling of history anterior to the rise of the specialized cultures, yet a brief consideration will clarify our conception of Middle American history by breaking up even further the mass of culturally unassignable pottery, called previously "Archaic."

The remarkable structure uncovered by the Carnegie Institution at Uaxactun presents evidence of high culture before the crystallization of the lowland cultures into what we now think of as Maya. Underneath this building stretched a rubbish heap which contained pottery (Fig. 5) absolutely out of the Maya tradition and fragmentary figurines which displayed some of the characteristics of the plastic of the Middle cultures in depicting more or less Maya features.

A comparatively short distance from Uaxactun lies Holmul where Doctor Merwin some years ago discovered a pyramid and temple which contained four strata of burials, the pottery from which proved their chronological significance. The pottery from the lowest layer was not in the Maya tradition (Fig. 6). It differed, however, from the Uaxactun material in such traits as spouted vessels and four swollen legs as means of support but resembled it in a tendency to avoid painted decoration.

Doctor Gamio, two years ago, unearthed pottery and figurines at the Finca Arevalo, near Guatemala City. The plastic resembled in some examples Middle culture material, in others Maya. The pottery was, in the main, decorated by incising or by the filleting on of ribbons of clay. The material culturally belongs to the Middle Cultures. The only chronological data are that not far from his excavations rude sculptures were found that closely resemble figures encountered in the foundations of early stelae at Copan.

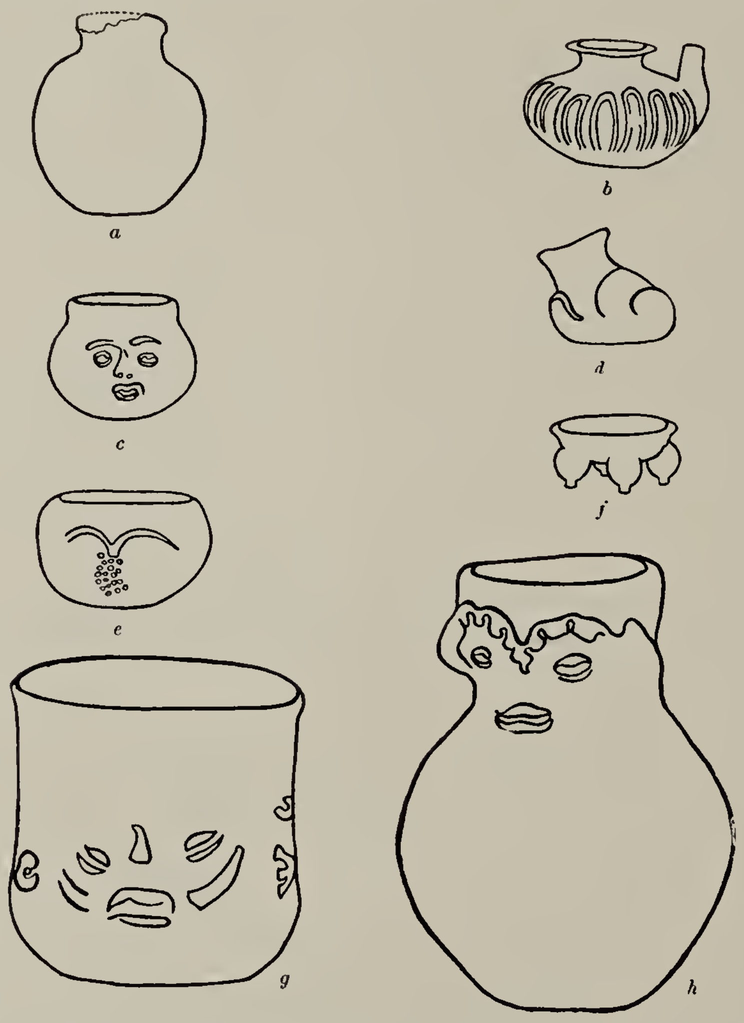


FIG. 7—GUATEMALA AND HONDURAS POTTERY. *a, c,* GRAY WARE; *b, d, e,* RED WARE, ULOA VALLEY, HONDURAS; *f–h,* BROWN OR GRAY WARE, SALCAJA, GUATEMALA.

The same dissimilarity observed in the Valley of Mexico we find in these ceramic collections from the Maya area. Ascribable more probably to time than to tribal differentiation are the ceramic differences between Holmul and Uaxactun. There does, however, seem to be a faint family resemblance between the earliest ceramics at Uaxactun and Finca Arevalo.

The next to the last group in our classification of this material consists of vessels found in open sites but different from high culture material. For ease in reference Doctor Lothrop has suggested the name Q culture. At sites near Salcaja (Fig. 7, *f–h*) and Chama in the Western Highlands of Gautemala occurs a body of material consisting in the main of pottery decorated mainly by incision or by modeling. Painted designs are rare and simple. The forms as defined by Doctor Lothrop include vessels with four swollen legs, effigy pots, tea pot form pots, and pots fluted on the sides.

These types of vessels extend to south of Salvador, with specialized forms in Costa Rica and Nicaragua. The undecorated pottery from the Uloa Valley in Honduras is in this tradition (Fig. 7, *a–e*). Certain of the forms at Holmul are in the same style which gives at least a fairly substantial antiquity of origin. As we move northwest into Mexico we see that pottery of Oaxaca is strongly tinged with these elements. They are recognizable in some of the pottery from Teotihuacan. They occur among the Huaxtec and again in some of the pottery vessels from Michoacan and the west of Mexico. Thus this persistence of traits makes up our last group of Middle Culture material.

Coincident with the distribution of these forms are crude types of stone sculpture, squatting figures, figures on pedestals and rounded bodies with the limbs and features in relief and not cut free.

The origin of this complex is hard to place. It is at its simplest and purest on the Highlands of Guatemala. It grows more complicated and efflorescent as one works south.

We have been covering a field as deep in time as it is wide in space. So widely do the specialized civilizations differ from each other that it seems highly improbable that they could have developed directly from a common cultural ancestor. The material we have just discussed bears out this contention. In the few cases where we have material before the rise of a civilization like Maya or Toltec there is no homogeneity. Even in restricted areas like the Peten or the Valley of Mexico there exist side by side ceramic groups that give implications of antiquity but are not strictly derivable one from the other.

In the whole of Middle American archaeology, there is known to me only one primitive culture group, the Coahuila Basket Maker material, but that is not possible to place even vaguely in time. However, from the low stage of Coahuila development to the humblest of the Middle Cultures there is room for a long series of developments. From the extreme individuality of the specialized civilizations it would seem that they exerted only weak pressure one on the other. The resemblances are better assigned to an early period when possessions common to all formed a basis for distinct individuality. Thus in the strictly chronological alignment of the Middle Cultures, we shall have doubtless the best opportunity to chart the main currents of Middle American civilization. Even though we progress far in the study of the Middle Cultures we must always remember that without a scheme for the Low Cultures of Middle America, our archaeology will be without a fundamental foundation.

AMERICAN MUSEUM OF NATURAL HISTORY,
NEW YORK CITY.

A DEITY COMMON TO TEOTIHUACAN AND TOTONAC CULTURES

By Hermann Beyer

IN a former paper[1] I was able to show that a Totonac ritual object is adorned with a deity that has a very peculiar butterfly as a headdress, corresponding to a very similar mythic figure among the Teotihuacan people. The similarity between the conventional representations of the butterfly in both civilizations is of such nature as to exclude an independent origin. Thus one civilization must have borrowed that trait from the other, or both must have had a common origin.

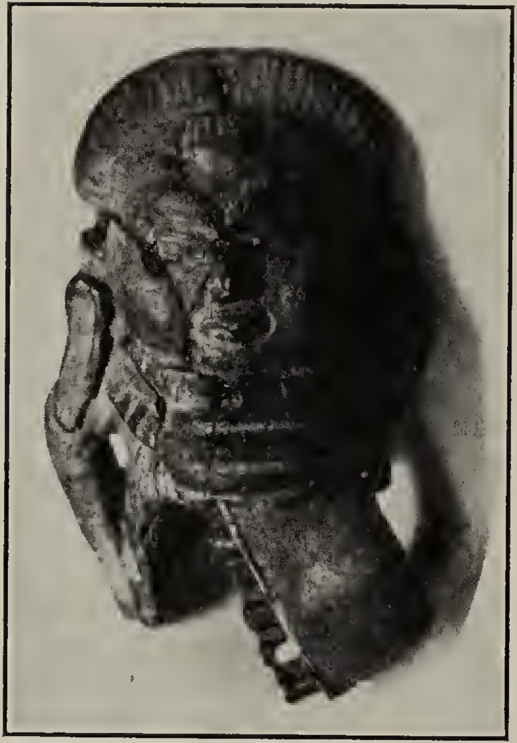


Fig. 1—TOTONAC DEITY. DEPARTMENT OF MIDDLE AMERICAN RESEARCH, TULANE UNIVERSITY

Another case of a characteristic figure to be found in practically identical form in the two mentioned civilizations will be treated now.

The Department of Middle American Research of Tulane University possesses a fairly large collection of so-called Totonac antiquities coming from the Tesechoacan River in the State of Vera Cruz, Mexico. Among them is a fragment of a hollow figurine that represents a chubby-faced deity with hanging eyelids and possesses a peculiar ear ornament (Fig. 1).

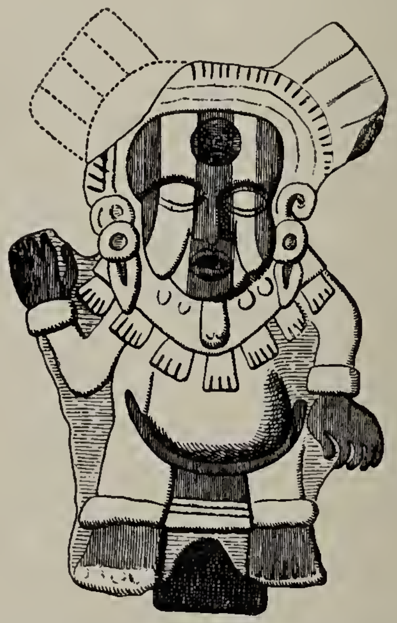


Fig. 2—THE TEOTIHUACAN FAT GOD. PORCHER COLLECTION, MEXICO CITY

This same mythological personage is quite common among antiquities of Teotihuacan style, the drawing (Fig. 2) reproducing a nearly complete specimen.[2] We note the same drooping lids and cheeks and, besides, a voluminous belly. Thus, this deity evidently represents a fat man. That we have to do with a male deity is indicated by his scanty vestment, a red breechclout, one end of which, adorned with transverse bands, hangs between the legs. Personal ornament is represented by disks and triangular pieces in the ears, a broad collar with pendants, bracelets, and anklets, a peculiar coiffure, and face and body painting.

---

[1] Beyer, H., Algunos Datos sobre los ''Yugos'' de Piedra prehispánicos, *El México Antiguo*, vol. 2, pp. 269–278.

[2] Other specimens are treated in Seler, Eduard, Die Teotiuacan-Kultur des Hochlandes von México, *Gesammelte Abhandlungen*, vol. 5, Berlin, 1915, pp. 506, 516, 520.

A fat man might represent a divinity of happiness, of felicity, of bliss, as with the Chinese. His sphere of action is surely more precisely indicated by the symbol on his forehead, the ear pendant, and the face paint. Unfortunately, our knowledge of Teotihuacan symbolism is still very limited. The frontal emblem can be determined as ''eye with brow'' or ''reptile's eye,''[3] perhaps it stands sometimes for ''serpent.'' It probably is an indication of fertility, abundance, etc. The ear ornament was, among the Nahuan peoples, a common insignia of musicians and dancers. Originally, however, it might have had a broader significance, meaning ''pleasure,'' ''joy.'' Possibly it corresponded in its origin to the Hindu symbol Yoni and meant primarily ''lust.'' In any case, I cannot offer proof that the Fat God was a god of music or dance.

The frequent occurrence of heads and figurines of the Fat God in the ancient remains of Teotihuacan and Atzcapotzalco, and the fact that his forehead is adorned with a typical symbol of that culture make it sure that he was a familiar deity of that people. He evidently had his assigned place in a pantheon of recognized deities.

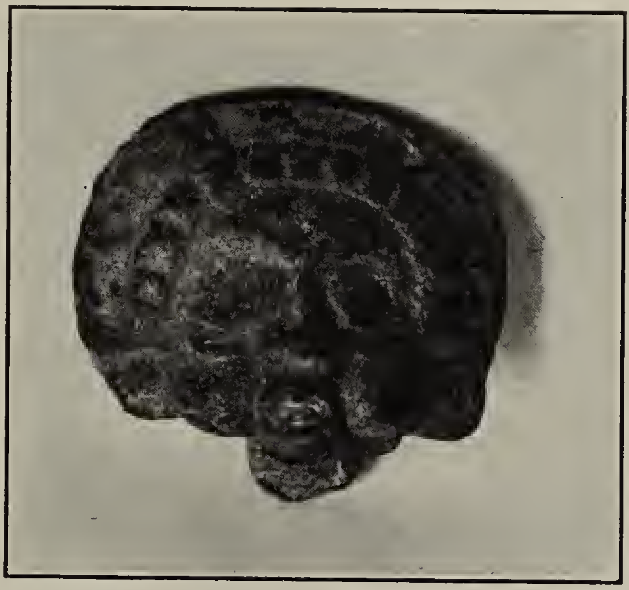


FIG. 3.—POTTERY HEAD, FRAGMENT. DEPARTMENT OF MIDDLE AMERICAN RESEARCH, TULANE UNIVERSITY.

Concerning Totonac civilization I am not quite so sure that the Fat God played the same important rôle, although it must be said that much fewer Totonacan figurative representations are known than of the former culture, so that the scarcity of his images among Totonac antiquities is, perhaps, merely accidental. In any case, Fig. 1 is not an imported figurine, but shows all the characteristic features of the other Tesechoacan pottery objects. The clay has the same yellowish-brown tinge, and the same consistency, the baking is identical, the walls of the figurine are thin, the statuette is in its greater part made in a mould, the arms and probably also the ear symbol being added by modeling.

---

[3] Beyer, H., Nota Bibliográfica y Crítica sobre el Quinto Tomo de las Memorias Científicas de Seler, *Memorias de la Sociedad Científica ''Antonio Alzate,''* vol. 40, pp. 62–63, Mexico, 1921.

Beyer, H., Sobre una Plaqueta con una Deidad Teotihuacana, *Ibidem,* vol. 40, pp. 553–554.

Thus the original of Fig. 1 is a typical Totonac clay idol, being produced in the same ceramic center whence the rest of the pottery came. If this deity was once taken over from the Teotihuacan, it has become incorporated in Totonac religion.

The Fat God does not occur among Aztec representations. Among several thousand figurines from the Valley of Mexico, that were of pure Aztec type, I never saw a deity similar to the one discussed here.

Neither does the god appear in Mayan picture manuscripts nor on the stelae of the Old Empire. There exist, however, a few representations of him in the Maya area. Fig. 3, for instance, shows a typical head of the Fat God, found at Toniná, Chiapas. It is quite possible that we are dealing in this case with an imported figurine. On a ranch near Toniná I saw a fragment of a Totonac stone yoke and at Finca La Preciosa (still in the Tzeltal country) in the collection of Señora Uhlig were a Totonac stone yoke and a laterally compressed stone head.

TULANE UNIVERSITY OF LOUISIANA.

DECORATIVE ASPECTS OF CERTAIN TYPES OF MEXICAN POTTERY

By Eduardo Noguera

OF all the inhabitants of America before the time of Columbus the Indian people of Mexico were considered perhaps the more advanced, for they had produced a culture of a high standard, developed a beautiful art and architecture, and lived under a well-organized political and social system. In South America, among the Inca, existed a culture comparable in many ways to that of Mexico.

Among the artistic expressions of the Mexican civilizations, one of the most noteworthy is the pottery industry, and its remains are scattered over all the archaeological sites. Although this pottery has certain exclusive characteristics that distinguish it from the ceramics of other American groups, it also has points of similarity by which cultural contacts with other Mexican ethnical groups may be traced.

A picture of the mentality of these people and the cultural level they had attained is reflected in the representation of the gods and goddesses, and symbols of other beings and objects, which are used on the decorations of their pottery. The present study, which I have the honor to present to this Congress, is a statistical one and designed to classify such pottery decorations, which, for the purpose of this work, are divided into anthropomorphic, zoomorphic, phytomorphic, skeuomorphic, and geometrical motives. Differences in the art products of the various cultural groups can thus be judged and some information on their mental characteristics gained.

Maya, Totonac, Huastec, and Archaic pottery are not in the scope of this work, partly because only a very limited number of examples of this type of ceramic products exist in the National Museum at Mexico City, whose archaeological collections, together with those at the local museum on the archaeological site of San Juan Teotihuacan, provided the material on which this work is based. Besides, excellent studies and classifications have already been made of this other pottery by foreign archaeologists.

For the purpose of this study, over four thousand examples of Zapotec, Mixtec, Tarascan, Toltec, and Aztec pottery vessels were studied and more than seventeen hundred other pottery objects. The character of the decoration was observed and the predominance in it of the human figure. It is important to bear in mind, in the classification of decorative motives into human, animal, plant, or geometrical forms, that many figures that at first sight appear purely geometrical, may have, in reality, undergone a complete evolution beginning with some natural form, passing slowly through conventionalization, and ending as a purely geometrical design. This can be observed in the conventionalized snake which began by being pictured realistically at first, but ended as a geometrical pattern.

Another object of the study was to classify the various pottery samples in the Mexican National Museum according to the type of decoration, *i.e.,* whether painted, incised, or modeled, or, when undecorated, to classify according to shape. However, in the short time allowed for the subject, only the first part dealing with the nature of the decoration will be considered here. The study is only preliminary, leaving much to be done, for the National Museum collections are but an infinitesimal part of the ceramic objects left by these people. Pottery still exists in countless localities and systematic excavations would reveal thousands of new samples that might modify the conclusions reached here.

The first ceramics to be considered is that of the Zapotec of Oaxaca. It closely resembles that of their neighbors, the Mixtec, showing a certain mental relationship, but it is distinguished from it in this compilation by its geographical origin, the Mixtec pottery being that which comes from the place known as the Mixteca region of Oaxaca.

Fifteen hundred and eighty-three vessels were studied and according to the character of their decoration they are divided into the following groups:—

	No.	*Per Cent*
Vessels with anthropomorphic decoration	660	42.0
Vessels with zoomorphic decoration	256	16.0
Vessels with phytomorphic decoration	6	0.3
Vessels with skeuomorphic decoration	7	0.4
Vessels with geometrical decoration	104	7.0
Vessels without decoration	550	35.0
Total	1,583	
Anthropomorphic pottery objects	385	95.0
Zoomorphic pottery objects	21	5.0
Total	406	

These figures show that over 40 per cent of the Zapotec pottery vessels are decorated with anthropomorphic motives. The importance of this motive varies, for in the case of funerary urns in the forms of human figures, the container part of the vessel almost disappears in comparison with it, while other vessels show only small anthropomorphic decorative details, such as hands, feet, or parts of heads, which nevertheless show that the maker was inspired by the human form or perhaps influenced by his religious beliefs to impress its form on his art.

Animal motives form decorations in only 16 per cent of the cases, geometrical ones in 7 per cent, and plant or object motives, a negligible number of times. It cannot, however, be said that all geometrical motives are purely such, as has been explained before, for many of them may represent conventionalized natural forms.

There are a considerable number of pottery vessels in which two or three types of decoration appear combined. When this is the case, preference is given to the predominant form. There are various examples, the central motive of which is anthropomorphic or zoomorphic and whose borders or edges are decorated with geometrical designs. In this case the animated motive is given the preference, since that was apparently the purpose of the artist as well. In other cases of mixed decoration more evenly distributed, preference is given to the animated motive for similar reasons.

More than a third, namely, 35 per cent, of the Zapotec vessels were undecorated. These were probably the common household pots and utensils and most likely occupied a minor place in the ceramic industry as works of art.

Of the four hundred and six ceramic objects, other than vessels, that were studied, 95 per cent were anthropomorphic and the rest zoomorphic.

The conclusion reached, according to our table, is that the human figure was of the greatest importance to the Zapotec artists and pottery makers, as in half of the cases the human figure was represented realistically while in the other cases it was conventionalized in varying degrees.

MIXTEC POTTERY

An analysis of five hundred fifty-three examples of Mixtec pottery in the National Museum and three hundred ninety-one pottery objects shows the following division of decoration:—

	No.	*Per Cent*
Vessels with anthropomorphic decoration	28	5.0
Vessels with zoomorphic decoration	32	6.0
Vessels with phytomorphic decoration	11	2.0
Vessels with skeuomorphic decoration	3	0.5
Vessels with geometrical decoration	202	36.0
Vessels without decoration	277	50.0
Total	553	
Anthropomorphic objects	386	98.0
Zoomorphic objects	5	0.5
Total	391	

Mixtec pottery, therefore, has only a small proportion of pieces with human and animal motives as decoration, but a high proportion, namely, 36 per cent, with geometrical decoration, whereas 50 per cent are without any decoration at all. Among pottery objects other than vessels, 98 per cent utilize the human figure and the others have animal forms.

Considering these two classes of ceramic objects together, it is seen that human motives still remain more important than any one of the others. The flora and fauna of the Mixteca, as far as can be seen from the collections at the National Museum, enter but little into the art of the pottery.

TARASCAN POTTERY

The history of the Tarascan is somewhat similar to that of the Aztec. They lived in Michoacan, parts of Guanajuato, Guerrero, and other States, which were invaded by tribes from the northwest, mingling their blood with theirs. The primitive appearing technique of their ceramic objects is suggestive of a primitive cultural level and these people appear to have inhabited these regions since relatively remote times. To judge by these very same objects, especially anthropomorphic figures, they bear a strong resemblance to the archaic figurines found in the strata of the Valley of Mexico, which are considered the artistic expressions of the oldest settlers in the valley.

The frequency with which various types of decoration appear in Tarascan pottery is as follows:—

	No.	*Per Cent*
Vessels with anthropomorphic decoration	77	9.0
Vessels with zoomorphic decoration	79	9.0
Vessels with phytomorphic decoration	16	1.0
Vessels with skeuomorphic decoration	2	0.2
Vessels with geometrical decoration	291	33.0
Vessels without decoration	406	46.0
Total	871	
Anthropomorphic pottery objects	250	93.0
Zoomorphic pottery objects	18	7.0
Skeuomorphic pottery objects	2	0.7
Total	270	

As is the case with Mixtec pottery, the proportion of Tarascan vessels with geometrical decoration is very high, being 33 per cent as compared with only 9 per cent of anthropomorphic and zoomorphic. The high number with geometrical decoration, however, is set off by the large number of other pottery objects other than vessels in which the anthropomorphic forms reach a proportion of 93 per cent.

The proportion of pottery vessels without decoration of any kind is 46 per cent, or more than any decorated group. Undecorated Tarascan pottery is not necessarily cruder than the decorated kind, for it is frequently made of fine dark clay carefully finished, often bearing small incised or embossed motives approaching primitive decoration.

The great quantity of human figurines and the elaborate decoration on the pottery vessels indicate that the Tarascan had reached a certain high cultural level, but at the same time, a great similarity with the archaic civilization of the Valley of Mexico is seen in the art of these same figurines. The preponderance of geometrical design on Tarascan pottery also suggests a certain relation with the Archaic culture, because geometrical motives also predominate in that type. However, as yet, no archetypes which would show how they are related have been found of either of these cultures.

TOLTEC POTTERY

Toltec pottery is but slightly known because archaeological sites of the Toltec are still almost untouched. In San Juan Teotihuacan, considered the principal city of the Toltec or at least the sacred one, are found rich archaeological remains and many minor objects which give a fair idea of the cultural stage of these people. The pottery of the Toltec was studied in the collections in the local museum on the archaeological site here.

In the work, *The Population of the Valley of San Juan Teotihuacan*, published in Mexico in 1922, excellent pottery studies and classifications have been made which make it unnecessary to go into great detail here. On the other hand, the limited number of ceramic objects of this culture that have been collected does not permit a very detailed study. The following is the classification of the decorative details on Toltec pottery:—

	No.	*Per Cent*
Vessels with anthropomorphic decoration	17	6.0
Vessels with zoomorphic decoration	11	4.0
Vessels with phytomorphic decoration	1	0.4
Vessels with geometric decoration	43	16.0
Vessels without decoration	197	74.0
Total	269	
Anthropomorphic pottery objects	294	71.0
Zoomorphic pottery objects	40	10.0
Skeuomorphic pottery objects	80	18.0
Total	414	

In spite of the limited number of samples of Teotihuacan pottery studied, certain conclusions can be reached. The number of vessels with anthropomorphic decoration is only 6 per cent, those with geometrical decorations amount to 16 per cent, while animal motives occur in only 4 per cent of the cases. On the other hand, the high proportion of 74 per cent remain without decoration.

There is a strong analogy here with Mixtec and Tarascan pottery, for in both cases geometrical decoration outweighs other types, while at the same time an abundance of anthropomorphic pottery objects exist to outweigh the scarcity of this type among the vessels. There are also many animal figurines among these minor objects representing fauna not found in the upland Toltec region of the cold Central Plateau. There are monkey and tiger motives which must have been imported from the hot lowlands.

Contrasted with ceramics of these other cultures, the Toltec had among their pottery objects other than vessels, a total of 18 per cent of skeumorphic objects.

AZTEC POTTERY

The classification of Aztec pottery made here includes the products of the Cholulan, Tlaxcalan, and Matlazinca, as well as of the Aztec proper of the Valley of Mexico. The occurrence of decorative types is as follows:—

	No.	*Per Cent*
Vessels with anthropomorphic decoration	52	5.0
Vessels with zoomorphic decoration	43	4.0
Vessels with phytomorphic decoration	43	4.0
Vessels with skeuomorphic decoration	34	3.0
Vessels with geometrical decoration	535	55.0
Vessels without decoration	248	26.0
Total	955	
Anthropomorphic pottery objects	266	94.0
Zoomorphic pottery objects	15	5.0
Skeuomorphic pottery objects	2	0.7
Total	283	

In the case of Mixtec, Tarascan, and Toltec pottery vessels, the geometrical patterns predominate over all others, and in the case of Aztec vessels the same is true, but in a still greater degree, for 55 per cent of these fall into that class. If it could be assumed that all vessels classed as of geometrical decoration were such, certain conclusions would be reached, but it must be borne in mind that a large proportion of these motives had their origin in natural forms becoming conventionalized with use.

The large proportion, 94 per cent, of anthropomorphic figurines and objects among other pottery articles of the Aztec offsets the low proportion, 5 per cent, of vessels bearing anthropomorphic motives.

SYNTHETIC TABLE SHOWING FREQUENCY OF DECORATION IN VESSELS AND PERCENTAGES

Cultures	Anthropomorphic	Per Cent	Zoomorphic	Per Cent	Phytomorphic	Per Cent	Skeuomorphic	Per Cent	Geometric	Per Cent	Undecorated	Per Cent	Totals
Zapotec	660	42	256	16	6	0.4	7	0.4	104	7	550	35	1583
Mixtec	28	5	32	6	11	2.0	3	0.5	202	36	277	50	553
Tarascan	77	9	79	9	16	1.8	2	0.2	291	33	406	46	871
Toltec	17	6	11	4	1	0.3			43	16	197	74	269
Aztec	52	5	43	4	43	4.0	34	3.0	535	55	248	26	955
Totals	834		421		77		46		1175		1678		4231

SUMMARY AND CONCLUSIONS

The analysis of the totals of pottery articles belonging to the various cultural groups examined is as follows:—

	Vessels	*Pottery Objects*
Zapotec	1583	406
Mixtec	553	391
Tarascan	871	270
Toltec	269	414
Aztec	955	283
Totals	4231	1764

Of these, the following analysis according to type of decoration is made:—

	No.	*Per Cent*
Vessels with anthropomorphic decoration	834	20
Vessels with zoomorphic decoration	421	10
Vessels with phytomorphic decoration	77	2
Vessels with skeuomorphic decoration	46	1
Vessels with geometrical decoration	1175	28
Vessels without decoration	1678	40
Total	4231	
Anthropomorphic pottery objects	1581	90
Zoomorphic pottery objects	99	6
Skeuomorphic pottery objects	84	4
Total	1764	

Thus, of forty-two hundred thirty-one vessels and seventeen hundred sixty-four pottery objects which make up a total of fifty-nine hundred ninety-five samples studied from the collections at the National Museum of the cultural groups mentioned, we have:—

Sixteen hundred seventy-eight vessels devoid of decoration and more or less crudely made, make up the 40 per cent of the total number of vessels.

Eleven hundred seventy-five decorated vessels or the 28 per cent of the total number.

As has been seen, for the purpose of this study, we have classified these into anthropomorphic, zoomorphic, phytomorphic, skeuomorphic, and geometrical decoration and according to our aforementioned table we advance the following hypothetical deductions:—

Of all the cultural groups considered, the Aztec show the lowest percentage of undecorated ware and the highest of decorated pottery. Also, this culture shows the highest per cent in geometrical decoration. This is perhaps due to the fact that this culture was acquiring an exclusively artistic character through stylization, whereas in the other civilizations the artistic-symbolic character predominates and its decorative motives tended to conventionalization and realism rather than to stylization.

The proportion of skeuomorphic vessels is insignificant, 1 per cent; because probably, these pre-Hispanic civilizations had not, as yet, attained a complete industrial production which might suggest and permit the creation of such artistic motives. In fact, the skeuomorphic motives that have been noticed are derived from a few industrial objects such as robes, blankets, mats. This hypothesis seems to be confirmed by the fact that Zapotec, Mixtec, and Tarascan pottery show only 0.4 per cent, 0.5 per cent, and 0.2 per cent, respectively, while the Aztec culture which is chronologically later than the others and at the same time had a more varied industrial production makes up a 3.5 per cent, certainly higher.

The total percentage of phytomorphic decoration among these ceramics is insignificant, 2 per cent. This may be accounted for by the fact that the geographical zones where these cultures developed are relatively high and the vegetation is not so profuse and rich as in the lowlands and coasts. An examination of Maya, Totonac, and Huaxtec pottery probably will show a high percentage of phytomorphic motives derived from the abundant flora of the low regions.

In regard to zoomorphic decoration the highest percentages are found in Zapotec, Mixtec, and Tarascan cultures while Toltec and Aztec are lower, probably because the areas occupied by the former civilizations have certainly richer fauna than the areas of occupancy of Toltec and Aztec who developed mainly in the Valley of Mexico, where animals are more rare.

We can not account, even hypothetically, for the high percentage, 42, of Zapotec anthropomorphic decoration, whereas the other cultures show only 5, 9, 6, and 5 per cent, respectively.

As to ceramic objects other than vessels, anthropomorphic forms make up 90 per cent of the total of seventeen hundred sixty-four examples studied and the zoomorphic and skeuomorphic make up the other 5 per cent each.

Moreover, because the human figure is represented much more frequently in objects that are not vessels or receptacles, it is possible to conclude that the Mixtec, Zapotec, Tarascan, Toltec, and Aztec used geometrical and conventionalized motives on objects that lent themselves to these forms, such as the surfaces of their painted vessels. However, when they wanted to represent objects realistically, as, for instance, the human form, they were able to do so with complete success, as is amply demonstrated by the numerous human figurines of these various cultural groups.

Dirección de Arqueología,
Secretaría de Educación,
Mexico, D. F.

INFLUENCIA DE LA SAL EN LA DISTRIBUCIÓN GEOGRAFICA DE LOS GRUPOS INDIGENAS DE MEXICO[1]

Por Miguel O. de Mendizábal

EL cloruro de sodio entra en la composición de todos los tejidos animales de todos los líquidos vitales, sangre o linfa, y de todas las secreciones, incluso. Por transformaciones o desasimilaciones, el organismo humano, por ejemplo, pierde diariamente al rededor de 2 gr., determinándose en él un desequilibrio, que se manifiesta en hambre de sal y demanda una inmediata reposición. *La economía animal requiere un mínimo de sal.*

Los animales carnívoros y los hombres que se sustentan con una dieta exclusivamente animal (sangre, leche, carne, grasa), satisfacen esta necesidad con la pequeña cantidad de sal contenida en los alimentos de origen animal, sin adiciones; los herbívoros y los hombres que se nutren de vegetales o de vegetales y animales al propio tiempo, no se satisfacen con la cantidad de sal, no mucho menor, que contienen éstos naturalmente, y necesitan cantidades adicionales que fluctúan entre 2 y 100 grs. *El mínimo de sal, en consecuencia, es función del régimen alimenticio.*

La supresión total de sales anorgánicas provoca la muerte de un animal, por intoxicación de ácidos, en menos tiempo del que moriría privado de todo alimento, excepto el agua; la privación de sal adicional ocasiona en los herbívoros y en el hombre que se alimenta de vegetales o de dieta mixta, graves perturbaciones digestivas y nerviosas, produciendo, a la postre, la muerte.

Pero el hambre de sal, provocada por los alimentos vegetales, puede ser satisfecha con cloruros de potasio y magnesio y con cloruros y bromuros alcalinos. Es, escencialmente, una *necesidad de cloruros,* derivada de la gran cantidad de jugos gástricos elaborados por el organismo a base de ácido hidro-clórico, empleada en la digestión del considerable volumen de alimentos vegetales requerido para la nutrición, estríctamente limitada a esa clase de dieta.

Diluída en cantidades enormes en las aguas del mar, de los lagos, ríos y veneros salados; aflorando por capilaridad en los terrenos esteparios; cristalizada en inmensos estratos del subsuelo o depositada por la acción espontánea de los agentes físicos en las playas marítimas y lacustres, y en las fumarolas de los volcanes, incluso, el hombre y los animales herbívoros han encontrado en la sal común este elemento indispensable, y lo han aprovechado en grande escala y en todos los tiempos, recurriendo a sus sustitutos solamente cuanto las posibilidades geográficas o las vicisitudes históricas los han obligado a ello.

---

[1] Este trabajo ha requerido una documentación tan copiosa, que resulta imposible hacer referencia a ella en este resumen. La monografía completa será publicada en breve por el Museo Nacional de México y distribuida entre todos los miembros del XXIII Congreso de Americanistas.

En América, como en los otros Continentes, la necesidad de sal acosó a los pueblos agricultores, que vivían fundamentalmente a base de maíz, frijol, calabaza, etc. . . . y, aunque en menor escala, a los cazadores y pescadores que subsistían eventualmente de la recolección, o que completaban con regularidad su alimentación animal con frutas, raíces, semillas y yerbas comestibles. Su preocupación constante fué conseguirla, sin omitir fatigas ni peligros, poniendo en ello toda su inteligencia y, en ocasiones, una singular habilidad.

Los grupos que se sustentaban exclusivamente de alimentos animales, carne o pescado, fueron poco numerosos, tal vez sólo los que se vieron obligados a ellos por las condiciones climáticas, como los habitantes de las regiones árticas; pero hubo muchos para quienes la recolección de frutos espontáneos era un simple recurso de hambre, y su alimentación normal se basaba en la carne y la sangre de los animales que cazaban. Estos grupos cazadores se preocuparon bien poco de la sal directamente; pero como los animales de caza más solicitados por ellos, los grandes herbívoros, la buscaban sin cesar, impremeditada, pero seguramente, llegaron también a las salinas naturales, a las tierras salitrales, a los ríos y lagos salados, en suma, a la sal.

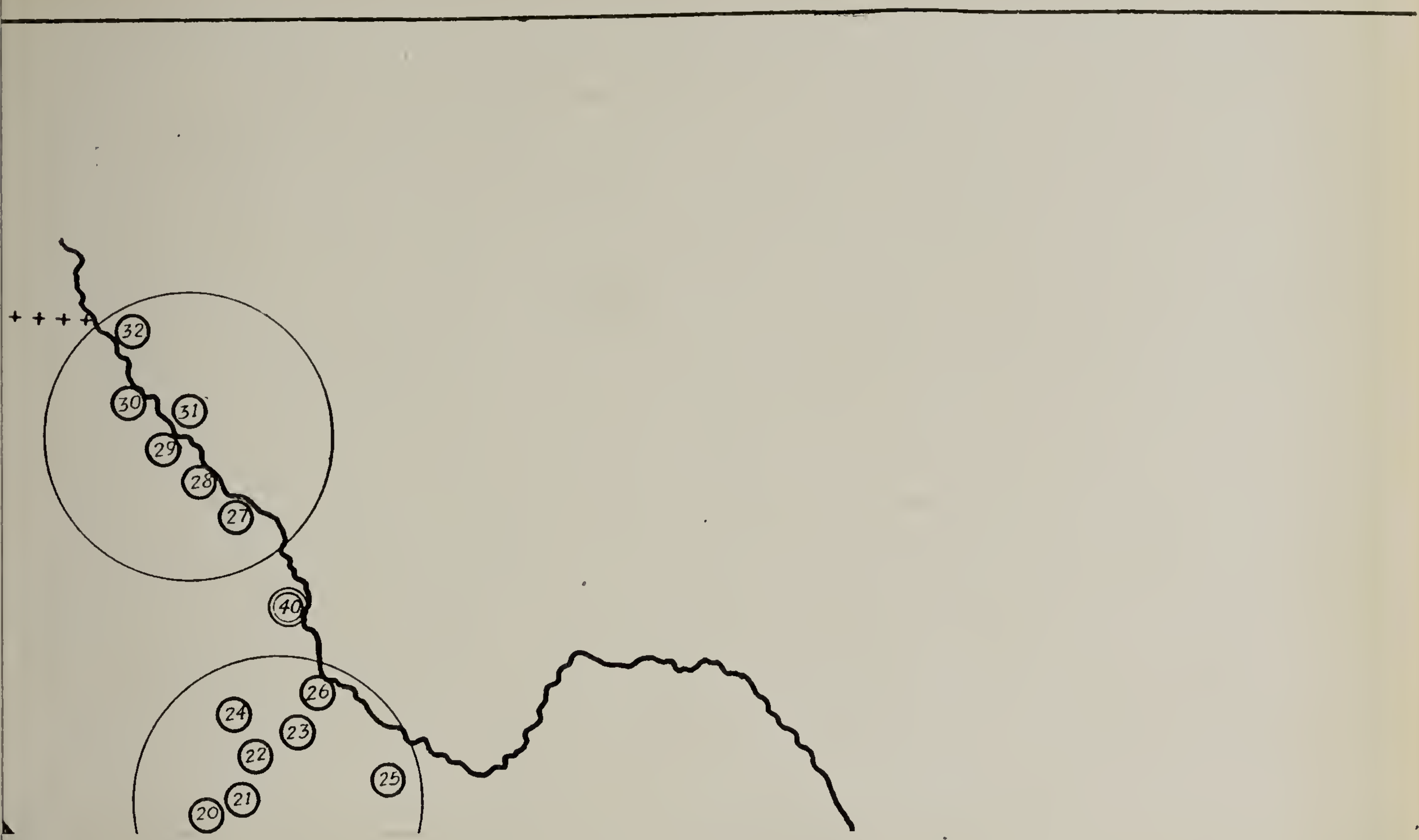
Los recursos de que se valieron los pueblos vegetarianos o de alimentación mixta, para llenar su imperiosa necesidad de sal, fueron, esencialmente, los mismos usados por los demás pueblos de la tierra: cosecha de salinas naturales, marítimas o lacustres, beneficio de tierras saladas por lejiviación; evaporación y concentración de salmueras por medio del calor del sol o por fuego. Este último procedimiento, muy generalizado, dió un gran impulso al desarrollo de la alfarería.

Las dificultades que solían tener para procurarse los yacimientos salinos, de cualquier naturaleza, indispensables para el beneficio de la sal, desarrollaron su iniciativa en alto grado; como caso notable, citaremos la explotación de los veneros salados que manaban dentro de la corriente del Río Magdalena, en Colombia, captados por un sistema de bombas, en el que se utilizaban cañas de bambú.

Salvo los chibchas, que explotaban en grande escala las canteras de sal gema de *Rute,* por medio de trabajos mineros muy perfeccionados, ninguno de los pueblos indígenas de América, a juzgar por la documentación que he logrado reunir hasta la fecha, llegó a adquirir, antes de la conquista, el conocimiento de la existencia de estos yacimientos, o por lo menos, a su consciente explotación; el hallazgo y aprovechamiento de las rocas de sal en la costa peruana y en los esteros de Sinaloa, parece haber sido eventual y supletoria.

El principal sustituto del cloruro de sodio usado en América fué, sin duda, el cloruro de potasio, obtenido de las cenizas de una palma y de ciertas especies vegetales, que no ha sido posible identificar, porque las noticias sobre el particular son vagas y un poco fantásticas, y sólo nos permiten constatar el uso de tales sustitutos, en determinadas regiones carentes de salinas naturales, tierras y aguas saladas.

La sal fué, para los americanos en general, un importantísimo elemento de cambio y para los agricultores una medida tradicional de riqueza, por lo que el


32
30
31
29
28
27
40
26
24
23
22
25
21
20

En América, como en los otros Continentes, la necesidad de sal acosó a los pueblos agricultores, que vivían fundamentalmente a base de maíz, frijol, calabaza, etc. . . . y, aunque en menor escala, a los cazadores y pescadores que subsistían eventualmente de la recolección, o que completaban con regularidad su alimentación animal con frutas, raíces, semillas y yerbas comestibles. Su preocupación constante fué conseguirla, sin omitir fatigas ni peligros, poniendo en ello toda su inteligencia y, en ocasiones, una singular habilidad.

Los grupos que se sustentaban exclusivamente de alimentos animales, carne o pescado, fueron poco numerosos, tal vez sólo los que se vieron obligados a ellos por las condiciones climáticas, como los habitantes de las regiones árticas; pero hubo muchos para quienes la recolección de frutos espontáneos era un simple recurso de hambre, y su alimentación normal se basaba en la carne y la sangre de los animales que cazaban. Estos grupos cazadores se preocuparon bien poco de la sal directamente; pero como los animales de caza más solicitados por ellos, los grandes herbívoros, la buscaban sin cesar, impremeditada, pero seguramente, llegaron también a las salinas naturales, a las tierras salitrales, a los ríos y lagos salados, en suma, a la sal.

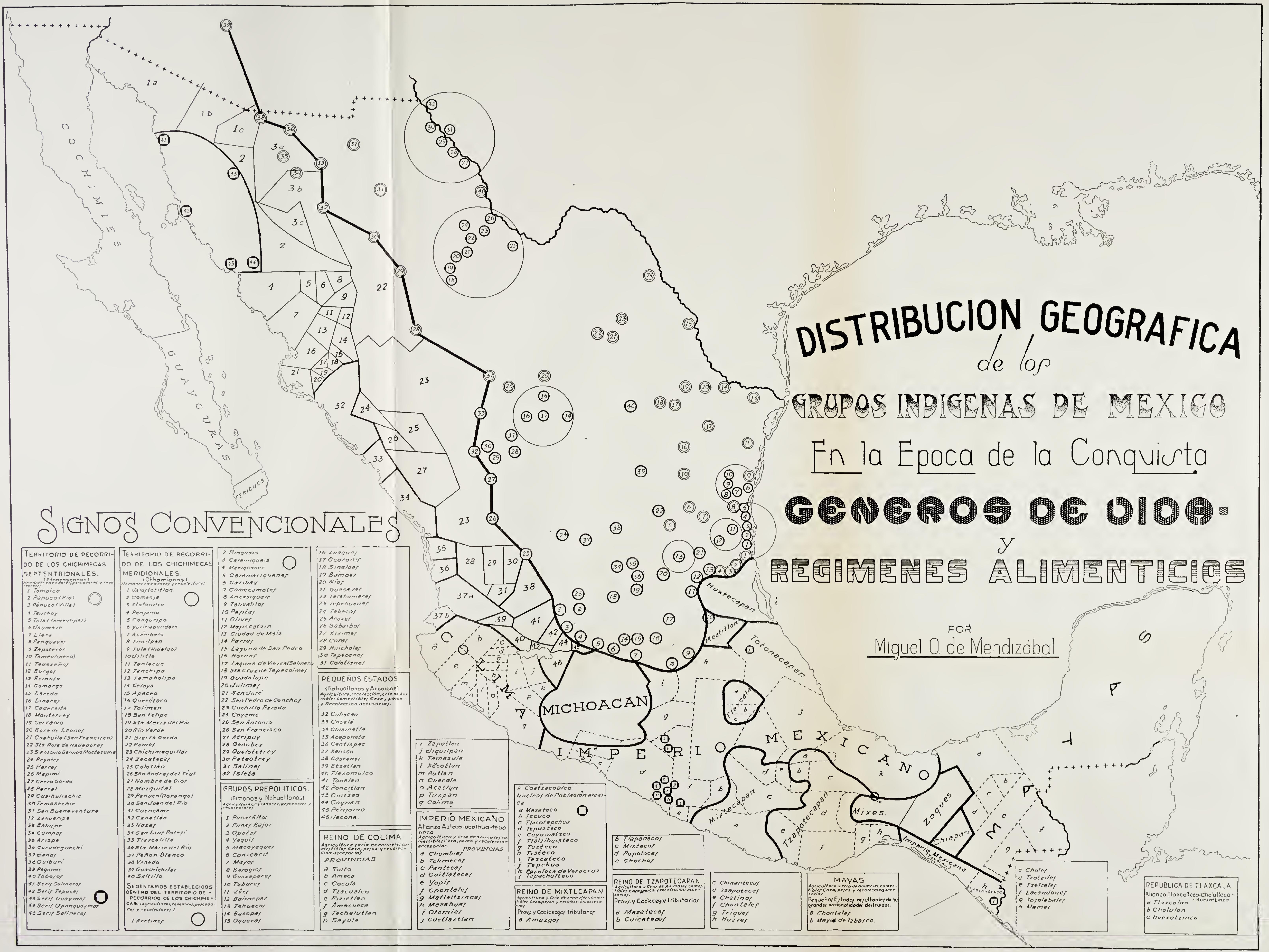
Los recursos de que se valieron los pueblos vegetarianos o de alimentación mixta, para llenar su imperiosa necesidad de sal, fueron, esencialmente, los mismos usados por los demás pueblos de la tierra: cosecha de salinas naturales, marítimas o lacustres, beneficio de tierras saladas por lejiviación; evaporación y concentración de salmueras por medio del calor del sol o por fuego. Este último procedimiento, muy generalizado, dió un gran impulso al desarrollo de la alfarería.

Las dificultades que solían tener para procurarse los yacimientos salinos, de cualquier naturaleza, indispensables para el beneficio de la sal, desarrollaron su iniciativa en alto grado; como caso notable, citaremos la explotación de los veneros salados que manaban dentro de la corriente del Río Magdalena, en Colombia, captados por un sistema de bombas, en el que se utilizaban cañas de bambú.

Salvo los chibchas, que explotaban en grande escala las canteras de sal gema de *Rute,* por medio de trabajos mineros muy perfeccionados, ninguno de los pueblos indígenas de América, a juzgar por la documentación que he logrado reunir hasta la fecha, llegó a adquirir, antes de la conquista, el conocimiento de la existencia de estos yacimientos, o por lo menos, a su consciente explotación; el hallazgo y aprovechamiento de las rocas de sal en la costa peruana y en los esteros de Sinaloa, parece haber sido eventual y supletoria.

El principal sustituto del cloruro de sodio usado en América fué, sin duda, el cloruro de potasio, obtenido de las cenizas de una palma y de ciertas especies vegetales, que no ha sido posible identificar, porque las noticias sobre el particular son vagas y un poco fantásticas, y sólo nos permiten constatar el uso de tales sustitutos, en determinadas regiones carentes de salinas naturales, tierras y aguas saladas.

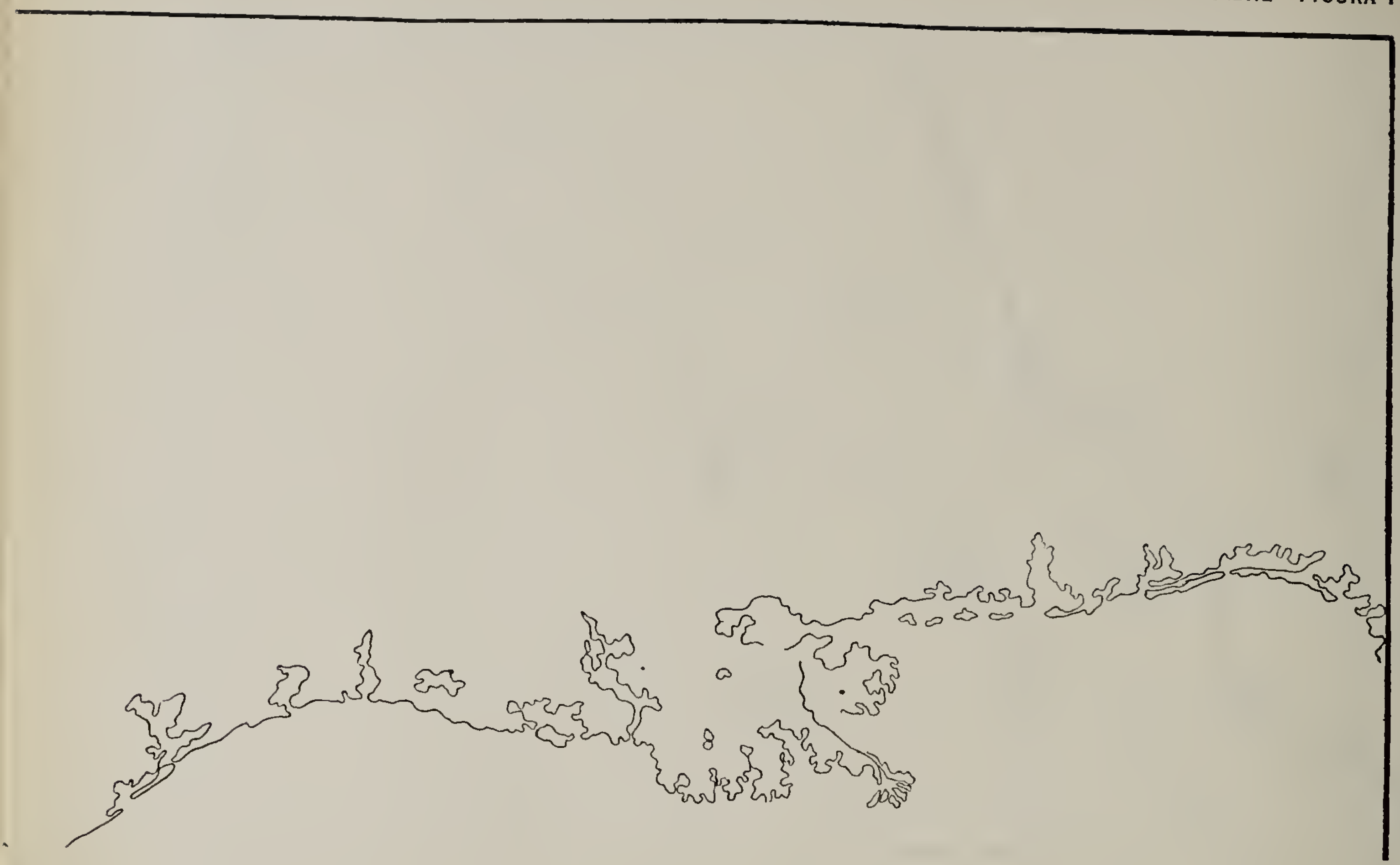
La sal fué, para los americanos en general, un importantísimo elemento de cambio y para los agricultores una medida tradicional de riqueza, por lo que el


DISTRIBUCION GEOGRAFICA
de los
GRUPOS INDIGENAS DE MEXICO
En la Epoca de la Conquista
GENEROS DE VIDA
y
REGIMENES ALIMENTICIOS
POR
Miguel O. de Mendizábal
COCHIMIES
GUAYCURAS
PERICUES
MICHOACAN
IMPERIO MEXICANO
COLIMA
MAYAS
Huxtecapan
Meztitlan
Totonacapan
Tlaxcala
Mixtecapan
Tzapotecapan
Mixes.
Zoques
Chiapan
Imperio Mexicano (TONALAN)
XOCONOCHCO
SIGNOS CONVENCIONALES
TERRITORIO DE RECORRIDO DE LOS CHICHIMECAS SEPTENTRIONALES.
(Athoposcanos)
Nomades cazadores, pescadores y recolectores
1 Tampico
2 Pánuco (Rio)
3 Pánuco (Villa)
4 Tanchoy
5 Tula (Tamaulipas)
6 Jaumave
7 Llera
8 Panguayes
9 Zapoteros
10 Tamaulipeco)
11 Tedexeños
12 Burgos
13 Reinosa
14 Camargo
15 Laredo
16 Linares
17 Cadereitá
18 Monterrey
19 Cerralvo
20 Boca de Leones
21 Coahuila (San Francisco)
22 Sta. Rosa de Nadadores
23 S Antonio Galindo Moctezuma
24 Peyotes
25 Parras
26 Mapimí
27 Cerro Gordo
28 Parral
29 Cusihuirachic
30 Temosachic
31 San Buenaventura
32 Zahuaripa
33 Babispe
34 Cumpas
35 Arizpe
36 Corodeguachi
37 Janos
38 Ouiburi
39 Paquime
40 Toboso
41 Seris Salineros
42 Seris Tepocas
43 Seris Guaymas
44 Seris Upanguaymas
45 Seris Salineros
TERRITORIO DE RECORRIDO DE LOS CHICHIMECAS MERIDIONALES.
(Othomianos)
Nomades cazadores y recolectores
1 Jalostotitlan
2 Comanja
3 Atotonilco
4 Penjamo
5 Conguripo
6 Yuririapundaro
7 Acambaro
8 Timilpan
9 Tula (Hidalgo)
10 Jilitla
11 Tanlacuc
12 Tanchipa
13 Tamaholipa
14 Celaya
15 Apaceo
76 Querétaro
17 Toliman
18 San Felipe
19 Sta Maria del Rio
20 Rio Verde
21 Sierra Gorda
22 Pames
23 Chichimequillas
24 Zacatecas
25 Colotlan
26 San Andres del Téul
27 Nombre de Dios
28 Mezquital
29 Panuco (Durango)
30 San Juan del Rio
31 Cuencame
32 Canatlan
33 Nazas
34 San Luis Potosí
35 Tlaxcalilla
36 Sta Maria del Rio
37 Peñon Blanco
38 Venado
39 Guachichiles
40 Saltillo.
SEDENTARIOS ESTABLECIDOS DENTRO DEL TERRITORIO DE RECORRIDO DE LOS CHICHIMECAS. (Agricultores, cazadores, pescadores y recolectores)
1 Aretines
2 Panquais
3 Caramiquais
4 Mariguanes
5 Caramariguanes
6 Caribay
7 Comecamotes
8 Ancasiguais
9 Tahualilos
10 Pasitas
11 Olives
12 Mayiscatzin
13 Ciudad de Maiz
14 Parras
15 Laguna de San Pedro
16 Hornos
17 Laguna de Viezca (Salineros
18 Sta Cruz de Tapacolmes
19 Guadalupe
20 Julimes
21 San José
22 San Pedro de Conchos
23 Cuchillo Parado
24 Coyame
25 San Antonio
26 San Francisco
27 Atripuy
28 Genobey
29 Quelotetrey
30 Pateotrey
31 Salinas
32 Isleta
GRUPOS PREPOLITICOS.
(Pimanos y Nahuatlanos)
Agricultores, cazadores, pescadores y recolectores.
1 Pimas Altos
2 Pimas Bajos
3 Opatas
4 Yaquis
5 Macoyaques
6 Conicárit
7 Mayos
8 Barogios
9 Guazapares
10 Tubares
11 Zóes
12 Baimenas
13 Tehuecos
14 Basopas
15 Oqueras
16 Zuaques
17 Ocoronis
18 Sinaloas
19 Bamoas
20 Níos
21 Guasaves
22 Tarahumaras
23 Tepehuanes
24 Tebecas
25 Acaxes
26 Sabaibos
27 Xiximes
28 Coras
29 Huicholes
30 Tepecanos
31 Colotlanes
PEQUEÑOS ESTADOS
(Nahuatlanos y Arcaicos)
Agricultura, recolección, cria de Animales comestibles Caza, pesca y Recoleccion accesorias.
32 Culiacan
33 Cosalá
34 Chiametla
35 Acaponeta
36 Centispac
37 Xalisco
38 Cascanes
39 Etzatlan
40 Tlaxomulco
41 Tonalan
42 Poncitlán
43 Cuitzeo
44 Coynan
45 Penjamo
46 Jacona.
REINO DE COLIMA
Agricultura y cria de animales comestibles Caza, pesca y recoleccion accesorias
PROVINCIAS
a Tuito
b Ameca
c Cocula
d Tzacualco
e Pizietlan
f Amacueca
g Techalutlan
h Sayula
i Zapotlan
j Jiquilpan
k Tamazula
l Xocotlan
m Autlán
n Chacala
o Acatlan
p Tuxpan
q Colima
IMPERIO MEXICANO
Alianza Azteca-acolhua-tepaneca
Agricultura y cria de animales comestibles Caza, pesca y recoleccion accesorias.
PROVINCIAS
a Chumbias
b Tolimecas
c Pantecas
d Cuitlatecas
e Yopis
f Chontales
g Matlaltzincas
h Mazahuas
i Otomies
j Cuetlaxtlan
k Coatzacoalco
Nucleos de Poblacion arcaica
a Mazateco
b Izcuco
c Tlacotepehua
d Tepuzteco
e Cuyumateco
f Tlalzihuisteco
g Tuzteco
h Tisteco
i Tezcateco
j Tepehua
k Popoloca de Veracruz
l Tapachulteco
REINO DE MIXTECAPAN
Agricultura y Cria de animales comestibles Caza, pesca y recolección, accesorias
Provs y Cacicazgos tributarios
a Amuzgos
b Tlapanecos
c Mixtecos
d Popolocas
e Chochos
REINO DE TZAPOTECAPAN
Agricultura y Cria de Animales comestibles Caza, pesca y recolección accesorias.
Provs. y Cacicazgos tributarios
a Mazatecas
b Cuicatecas
c Chinantecas
d Tzapotecas
e Chatinos
f Chontales
g Triques
h Huaves
MAYAS
Agricultura y cria de animales comestibles Caza, pesca y recoleccion accesorias
Pequeñas Estados resultantes de los grandes nacionalidades destruidos.
a Chontales
b Mayas de Tabasco.
c Choles
d Tzotziles
e Tzeltales
f Lacandones
g Tojolabales
h Mames
REPUBLICA DE TLAXCALA
Alianza Tlaxcalteco-Cholulteco-Huexotzinca
a Tlaxcalan
b Cholulan
c Huexotzinco

Mexico Agosto de 1928.

DIB. A. RUIZ.

DEPTO. DE LA ESTADISTICA NACIONAL



control de las salinas fué, naturalmente, un factor esencial en la distribución y en el desarrollo histórico de las sociedades.

El territorio mexicano y los numerosos grupos que se lo repartían en la época anterior a la Conquista, son un excelente campo de investigación para analizar en qué modo y medida, la necesidad fisiológica de sal contribuyó en esa distribución y en ese desarrollo.

Según se podrá ver en la carta de la Distribución Geográfica de los Grupos Indígenas (Fig. 1), los agricultores ocupaban, con excepción de la costa septentrional de Sonora y la mitad norte de Tamaulipas, todos los litorales, las llanuras costeras, las vertientes marítima e interior de la Sierra Madre Occidental y de la Oriental, hasta el Río Pánuco. Ocupaban también la sucesión de valles, mesetas y serranías que forman las estribaciones transversales de este doble sistema montañoso, desde las cuencas lacustres de Chapala, Cuitzeo y México, hacia el Sur. Esta gran extensión del territorio mexicano, corresponde, casi con exactitud, a la zona de precipitación de 750 milímetros anuales. Los lugares ocupados, dentro de ella, por las altas culturas y por las naciones de más avanzada organización, coinciden con las zonas de frecuencia de 100 lluvias al año. En otras palabras, habitaban las regiones climáticas apropiadas para los cultivos de temporal.

El resto del territorio mexicano, en el que las llanuras áridas suceden a las escarpadas serranías y a estas los desiertos de arena, en donde con dificultad prosperan las cactáceas, eran los territorios de recorrido de los chichimecas—cazadores nómades—pertenecientes a las familias othomiana y athapascana principalmente.

Sólo por excepción y obedeciendo a causas históricas, sin duda, los sedentarios poblaron esta región hostil, en determinados lugares en donde las condiciones locales lo permitían. La dominación Española, en virtud del desarrollo de la minería en la Altiplanicie, la transformó en parte; pero por las dificultades del tráfico, obligó a la más densa población colonial y a la moderna México, incluso, a vivir sobre una base agrícola falsa.

Hasta el momento en que la conquista y la colonización fijaron de manera definitiva a los diversos grupos indígenas—naciones, tribus, subtribus y hordas—en determinadas regiones de este territorio, los movimientos de población fueron múltiples y se desarrollaron en distintos sentidos. Sin embargo, a pesar de esta diversidad, motivada por acciones y reacciones recíprocas, podemos discernir dos direcciones fundamentales: una de Sur a Norte, la de los ''arcaicos''; otra de Norte a Sur, la de los pueblos que llegaron a ser históricos por sí o por mediación de los pueblos históricos y de los cronistas españoles.

México fué la región de América en donde ambas corrientes chocaron, se yuxtapusieron y fundieron de una manera más notoria y extensa, aun cuando es indudable que entre grupos pertenecientes a la una y a las otras hubieron contactos muy antiguos, como lo demuestra el cultivo del maíz, producto de las plantas silvestres *Euchloena mexicana y Euchloena lujurians* guatemalteca, tan difundido por Norte América entre los pueblos agricultores, como lo permitió el clima, incluso entre los grupos migratorios más antiguos de los que se tiene noticia: los náhoas.

Diversas fueron, sin duda, las causas que determinaron este gran movimiento de Norte a Sur, pero una de las principales fué seguramente la presión centrífuga de las hordas cazadoras, aun perceptible, en ciertos lugares, hasta el siglo XIX.

Estos movimientos se llevaban a cabo por grupos pequeños, en marchas alternadas con estableciemintos temporales, que solían hacer definitivos algunos de sus individuos. Así se formaron las extensas zonas lingüísticas que encontró la Conquista y que existen aun.

Cada uno de estos grupos procuraba subsistir durante sus peregrinaciones, de acuerdo con sus hábitos alimenticios, en la medida que se los permitían las condiciones climáticas y zoobotánicas de las rutas migratorias: los agricultores sembraban, cosechaban y proseguían su marcha, cazando, pescando y recolectando frutos espontáneos en el camino, para no agotar o por haber agotado sus reservas de maíz: los cazadores cazando siempre que encontraban animales para ello y capturando insectos, roedores, reptiles o recolectando, cuando la comarca no les era propicia.

Todos los grupos migratorios marchaban en son de guerra entre sí y contra los antiguos pobladores del territorio, que huían ante ellos si les era posible y se refugiaban en los pequeños marcos aisladores, en donde aun se les suele encontrar. Así vivían periodos más o menos largos, hasta que elegían su nuevo habitat o territorio de recorrido de acuerdo con su género de vida y apropiado a su regimen alimenticio. Estos períodos eran forzosamente *pre-comerciales,* hasta tanto que la necesidad y los nuevos intereses, dulcificaban las relaciones entre los vecinos, iniciándose un tráfico que ampliaba progresivamente su radio de acción, y llegaba a ser en ocasiones muy intenso y a vincular pueblos muy remotos, como el que organizaron los aztecas.

Durante los períodos pre-comerciales, naturalmente, cada grupo tenía que vivir atenido a sus propios recursos alimenticios e industriales. En estas comarcas de abundante precipitación pluvial—me refiero a la ocupada por los pueblos agricultores—el agua está bien distribuída geográficamente para suplir las necesidades fisiológicas; la agricultura de temporal es practicable en casi toda su extensión, y la caza, la pesca y sobre todo las especies vegetales comestibles, no son raras. En consecuencia, la principal preocupación alimenticia de estos grupos, tanto durante sus peregrinaciones como en sus altos temporales o definitivos, fué la sal.

Por esta razón, a parte de las facilidades de circulación, la faja costera, cuyos esteros litorales, particularmente en el Pacífico, están profusamente dotados de salinas naturales, fué la ruta predilecta de los peregrinos, hasta que la concurrencia y las disputas por la posesión de las salinas, la hizo especialmente peligrosa para la tranquilidad de las marchas o de los nuevos establecimientos, y las rutas de la Altiplanicie comenzaron a ser frecuentadas, siempre al amparo de las sierras, para evitar la sed y el peligro de las hordas chichimecas que la señoreaban.

El problema de la sal, en el interior del territorio mexicano, lo resolvieron la naturaleza y la industria de estos grupos humanos, a la par. Los lagos salados de las cuencas cerradas, los veneros, perseguidos por medio de pozos hasta la sal gema origen de su saturación, tal vez; las tierras salitrosas, las tequesquiteras (sesquicarbonatos de sosa) y las saltierras, fueron explotados en los lugares que he marcado en la gráfica respectiva, y en otros muchos, sin duda, de los que no tenemos noticia.

El beneficio de la sal se hacía por evaporación solar y artificial. El primer procedimiento, muy difundido en las regiones que pertenecen en la actualidad a los Estados de Guerrero y Oaxaca, se practicaba revistiendo de trementina los bordes de mampostería o de barro de los tanques de concentración y cristalización, con el objeto de protegerlos contra los efectos destructores de la sal. Para el segundo, usado entre la mayoría de los pueblos de cultura más elevada desde Jalisco y Colima hasta Chiapas, incluso en Guerrero y Oaxaca naturalmente, se utilizaban grandes vasijas de diferentes formas, en algunos lugares antropomorfas, que se colocaban en torno y sobre un hogar cavado en la tierra. Alguno de los pueblos que poseían salinas marítimas, solían reconcentrar las aguas saturadas de los esteros por medio de estanques de evaporación solar, para precipitar la cristalización. Los chontales de Pochutla, Oaxaca y los mayas de Celestun, hacían sus salmueras lavando las tierras impregnadas de sal de los esteros, con agua de mar.

Una de las características más notables de la explotación de las salinas prehispánicas de México, fué la pequeña escala en que eran beneficiadas, cualquiera que fuese su potencia, y, contrariamente la explotación de todas las salinas aun cuando su capacidad de producción fuera mínima. En otras palabras: *la explotación de las salinas estaba muy ampliamente difundida, pero era poco intensa.*

La razón de esta anomalía, tratándose de una substancia tan preciosa como la sal, radicaba en su misma importancia. Elemento imprescindible para su vida, no quisieron deberlo al comercio, sujeto a las vicisitudes de sus continuas guerras y cambios políticos. *La salina nutricia, fué el punto de apoyo geográfico buscado por todos los grupos como base para un desarrollo económico y político independiente.*

Pero no todos los grupos fueron tan afortunados en encontrarlo o en poderlo librar de la codicia de los otros. Los tlaxcaltecas, por ejemplo, es fama que estuvieron ochenta años sin comer sal, porque carecían de los elementos para beneficiarla, y los aztecas, controlando por medio de sus guerreros todas las rutas del tráfico de la sal, les impedían procurársela comercialmente, usando de este terrible ardid para vencer su espíritu de independencia. Claro está que no podemos creer al pie de la letra en estas declaraciones que hiciera *Xicotencatl* a Hernán Cortés, pues los tlaxcaltecas, que se alimentaban fundamentalmente de maíz, no hubieran podido sobrevivir a tan larga privación. Es seguro que emplearían en sus condimentos los tequesquites y tierras saladas que no faltaban del todo en su comarca, como lo hacían los de Meztitlán que estaban exactamente en las mismas condiciones; pero es indudable que la privación de sal marina o de beneficio—sal de mesa o de salero, podríamos decir—fué factor importante en la alianza de los tlaxcaltecas con los españoles, y, consecuentemente, en la Conquista de México.

En todas las regiones del territorio mexicano, en donde faltaba la sal, podemos constatar la influencia que ella tuvo en el desarrollo histórico de los grupos: los ópatas y los pimas bajos, se destrozaron disputándose las Salinas de Batuc en la serranía de Sonora; los nayaritas (coras y huicholes) que habían resistido victoriosamente a los españoles durante dos siglos, se vieron obligados a capitular, cuando una guarnición les impidió el paso para la costa de Acaponeta y Sentispac, en donde se proveían de sal, y la condición primera que puso para rendirse el *Hueytlacatl del Nayar* al Virrey Marques de Valero, fué el paso libre hacia la sal.

Por lo que se refiere a los chichimecas, othomianos y athapascanos, resulta un poco aventurado establecer una regla general. Había algunos, en las praderas de los búfalos próximas al Río Grande y Gila, que se preocupaban muy poco de la sal, según los cronistas, no obstante que su territorio de recorrido era abundantísimo en salinas y solían venderla, incluso, a los agricultores; los otomíes de Querétaro, en cambio, según las declaraciones del indio *Conni,* comerciante otomí de Xilotepec, sentían un gran apetito de sal y la obtenían a cualquier precio.

Como todas estas hordas, temporal o eventualmente, se alimentaban con frutos, raíces y yerbas silvestres, debemos suponer que necesitaban fisiológicamente del cloruro de sodio, en mayor o menor proporción y temporal o eventualmente también. Algunos poseían salinas naturales de gran importancia; otros utilizarían las aguas fuertemente saladas de los lagos de la Altiplanicie, muy abundantes y bien distribuídos; otros, por último, usarían las saltierras. Ninguna de estas hordas, a juzgar por los documentos que hasta la fecha he encontrado, practicó el beneficio de la sal por evaporación artificial, pues carecieron en absoluto de alfarería, ni aun por el procedimiento de evaporación solar, mediante tanques de condensación y cristalización, puesto que los españoles colonizadores de estas comarcas no encontraron vestigios de ello, no obstante que los buscaron empeñosamente, por el rápido desarrollo de la minería en Zacatecas, Durango y Chihuahua, que demandaba grandes cantidades de sal.

Conviene agregar que estos nómades fueron muy poco avanzados en el arte culinario. Comían sus alimentos crudos, asados o tostados y consecuentemente, si usaron el sazón culinario, éste debió ser en forma de rocío o en adiciones en polvo. Algunos de ellos, sin embargo, comenzaban a hacer ensayos de cocimiento, valiéndose de cáscaras de calabaza y de piedras calentadas al rojo, que se iban introduciendo en el líquido, hasta su ebullición.

Es cosa probada que la gran agresividad de estas hordas, era motivada por las necesidades alimenticias, que en los tiempos difíciles, no podían llenar sino a costa de las reservas de los pueblos agricultores; es muy posible que la sal haya sido factor importante en estas agresiones que tanta importancia tuvieron en las migraciones y en la distribución geográfica de los agricultores.

Es pertinente hacer notar que el uso del chile, íntimamente asociado entre los agricultores al de la sal, fue desconocido de la mayoría de los chichimecas, salvo de los pisones que cosechaban chilepiquín silvestre, y de algunos otros, quizás. Lo desconocieron también los grupos agricultores de la familia pimana. Puede decirse que su cultivo y uso en el territorio mexicano, fué propio de los grupos que vivían fundamentalmente del maíz; su área, en consecuencia, corresponde a la de los pequeños estados y naciones, marcada en la gráfica de la Distribución de los Grupos.

El *Narama* una de las más importantes deidades de los Nayares, muestra el estrecho vínculo que existía entre la sal y el chile, pues era el introductor de ambos estimulantes en la cocina indígena. Presidía, asimismo, los tres meses del año, de 21 de marzo a 21 de junio, en los que se cuaja la sal en los esteros de la costa occidental del Pacífico. *Vixtocihuatl,* la diosa de la sal de los mexicanos, era venerada en el mes *Tecuilhuitontli,* época del año en que las mareas inundan los esteros en donde se forman las salinas naturales de la costa Sur del Océano Pacífico.

Por lo que se refiere a los chichimecas, othomianos y athapascanos, resulta un poco aventurado establecer una regla general. Había algunos, en las praderas de los búfalos próximas al Río Grande y Gila, que se preocupaban muy poco de la sal, según los cronistas, no obstante que su territorio de recorrido era abundantísimo en salinas y solían venderla, incluso, a los agricultores; los otomíes de Querétaro, en cambio, según las declaraciones del indio *Conni,* comerciante otomí de Xilotepec, sentían un gran apetito de sal y la obtenían a cualquier precio.

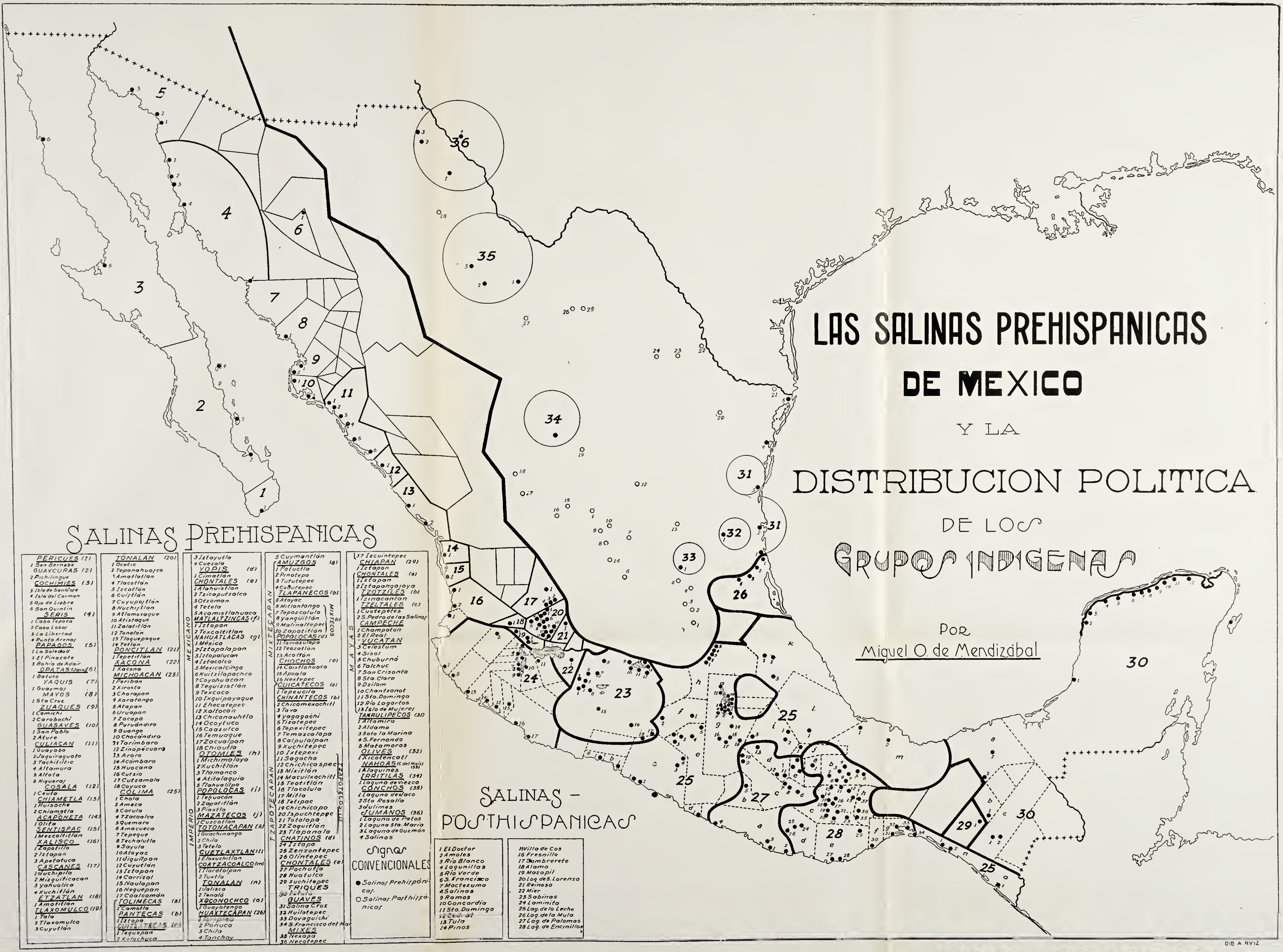
Como todas estas hordas, temporal o eventualmente, se alimentaban con frutos, raíces y yerbas silvestres, debemos suponer que necesitaban fisiológicamente del cloruro de sodio, en mayor o menor proporción y temporal o eventualmente también. Algunos poseían salinas naturales de gran importancia; otros utilizarían las aguas fuertemente saladas de los lagos de la Altiplanicie, muy abundantes y bien distribuídos; otros, por último, usarían las saltierras. Ninguna de estas hordas, a juzgar por los documentos que hasta la fecha he encontrado, practicó el beneficio de la sal por evaporación artificial, pues carecieron en absoluto de alfarería, ni aun por el procedimiento de evaporación solar, mediante tanques de condensación y cristalización, puesto que los españoles colonizadores de estas comarcas no encontraron vestigios de ello, no obstante que los buscaron empeñosamente, por el rápido desarrollo de la minería en Zacatecas, Durango y Chihuahua, que demandaba grandes cantidades de sal.

Conviene agregar que estos nómades fueron muy poco avanzados en el arte culinario. Comían sus alimentos crudos, asados o tostados y consecuentemente, si usaron el sazón culinario, éste debió ser en forma de rocío o en adiciones en polvo. Algunos de ellos, sin embargo, comenzaban a hacer ensayos de cocimiento, valiéndose de cáscaras de calabaza y de piedras calentadas al rojo, que se iban introduciendo en el líquido, hasta su ebullición.

Es cosa probada que la gran agresividad de estas hordas, era motivada por las necesidades alimenticias, que en los tiempos difíciles, no podían llenar sino a costa de las reservas de los pueblos agricultores; es muy posible que la sal haya sido factor importante en estas agresiones que tanta importancia tuvieron en las migraciones y en la distribución geográfica de los agricultores.

Es pertinente hacer notar que el uso del chile, íntimamente asociado entre los agricultores al de la sal, fue desconocido de la mayoría de los chichimecas, salvo de los pisones que cosechaban chilepiquín silvestre, y de algunos otros, quizás. Lo desconocieron también los grupos agricultores de la familia pimana. Puede decirse que su cultivo y uso en el territorio mexicano, fué propio de los grupos que vivían fundamentalmente del maíz; su área, en consecuencia, corresponde a la de los pequeños estados y naciones, marcada en la gráfica de la Distribución de los Grupos.

El *Narama* una de las más importantes deidades de los Nayares, muestra el estrecho vínculo que existía entre la sal y el chile, pues era el introductor de ambos estimulantes en la cocina indígena. Presidía, asimismo, los tres meses del año, de 21 de marzo a 21 de junio, en los que se cuaja la sal en los esteros de la costa occidental del Pacífico. *Vixtocihuatl,* la diosa de la sal de los mexicanos, era venerada en el mes *Tecuilhuitontli,* época del año en que las mareas inundan los esteros en donde se forman las salinas naturales de la costa Sur del Océano Pacífico.



LAS SALINAS PREHISPANICAS DE MEXICO

Y LA

DISTRIBUCION POLITICA

DE LOS

GRUPOS INDIGENAS

POR

Miguel O. de Mendizábal

SALINAS PREHISPANICAS

PERICUES (1)
1 San Bernabe
GUAYCURAS (2)
2 Pichilingue
COCHIMIES (3)
3 Isla de San José
4 Isla del Carmen
5 Ojo de Liebre
6 San Quintin
SERIS (4)
1 Cabo Tepoca
2 Cabo Lobos
3 La Libertad
4 Punta Arenas
PAPAGOS (5)
1 La Soledad
2 El Pinacate
3 Bahia de Adair
OPATAS (Jovas) (6)
1 Batuco
YAQUIS (7)
1 Guaymas
MAYOS (8)
1 Sta Cruz
ZUAQUES (9)
1 Comichi
2 Carobochi
GUASAVES (10)
1 San Pablo
2 Ature
CULIAÇAN (11)
1 Guayabo
2 Jaquiraquato
3 Tachitiltic
4 Altamura
5 Altata
6 Higueras
COSALA (12)
1 Ceuta
CHIAMETLA (13)
1 Huisoche
2 Chiametla
ACAPONETA (14)
1 Olita
SENTISPAC (15)
1 Mezcaltitlán
XALISCO (16)
1 Zapotillo
2 Iztapan
3 Apetatuca
CASCANES (17)
1 Juchipila
2 Mizquiticacan
3 yahualica
4 Xuchitlán
ETZATLAN (18)
1 Amatitlán
TLAXOMULCO (19)
1 Tala
2 Tlaxomulco
3 Cuyutlán

TONALAN (20)
1 Ocotic
2 Teponahuasco
3 Amatlatlan
4 Tlacotlán
5 Izcatlán
6 Cuistlán
7 Cuyupastlán
8 Nuchistlan
9 Atlamaxaque
10 Atistaque
11 Zalatitlán
12 Tonalán
13 Tlaquepaque
14 Tetlán
PONCITLAN (21)
1 Tepetitlán
XACONA (22)
1 Xacona
MICHOACAN (23)
1 Periban
2 Xirosto
3 Charapan
4 Xaratango
5 Atapan
6 Uruapan
7 Zacapo
8 Puruándiro
9 Guango
10 Chocándiro
11 Tarimbaro
12 Zinapécuaro
13 Araro
14 Acámbaro
15 Huacana
16 Cutzio
17 Cutzamala
18 Coyuca
COLIMA (25)
1 Chola
2 Ameca
3 Cocula
4 Zacoalco
5 Quemaro
6 Amacueca
7 Tepeque
8 Techalutla
9 Sayula
10 Atoyac
11 Jiquilpan
12 Cuyutlán
13 Iztapan
14 Carrizal
15 Naulapan
16 Nequepan
17 Coalcomán
TOLIMECAS (a)
1 Camatla
PANTECAS (b)
1 Iztapa
CUITLATECAS (c)
1 Tequepan
2 Xolochuca

MEXICANO
3 Iztayutla
4 Cuezala
YOPIS (d)
1 Cimatlán
CHONTALES (e)
1 Alahuistlan
2 Tzicaputzalco
3 Otzoman
4 Tetela
5 Acamistlahuaca
MATLALTZINCAS (f)
1 Iztapan
2 Texcaltitlan
NAHUATLACAS (g)
1 México
2 Iztapalapan
3 Iztapalucan
4 Iztacalco
5 Mexicalcingo
6 Huitzilapochco
7 Coyohuacán
8 Tequizistlán
9 Texcaco
10 Ixquipayaque
11 Ehecatepec
12 Xaltocan
13 Chiconauhtla
14 Ocoytuco
15 Coazulco
16 Temuaque
17 Zacualpan
18 Chiautla
OTOMIES (h)
1 Michimaloya
2 Xuchitlán
3 Tlamanco
4 Atitalaquia
5 Tlahualilpa
POPOLOCAS (i)
1 Tehuacán
2 Zapatitlán
3 Piaxtla
MAZATECOS (j)
1 Cuzcatlan
TOTONACAPAN (k)
1 Guachinango
2 Chila
3 Tetela
CUETLAXTLAN (l)
1 Eloxuchitlan
COATZACOALCO (m)
1 Tlacotalpan
2 Tuxtla
TONALAN (n)
1 Jalisca
2 Tonalá
XOCONOCHCO (o)
1 Guayatengo

IMPERIO

HUAXTECAPAN (26)
1 Tampico
2 Panuco
3 Chila
4 Tanchoy

MIXTECAPAN
5 Cuymantlán
AMUZGOS (a)
1 Potuctla
2 Pinotepa
3 Tututepec
4 Coautepec
TLAPANECOS (b)
5 Atoyac
MIXTECOS (c)
6 Mitlantongo
7 Tepozcalulo
8 yangüitlán
9 Malinaltepec
10 Zapotitlán
POPOLOCAS (d)
11 Tamazulapa
12 Teozatlán
13 Acatlán
CHOCHOS (e)
14 Coixtlahuaca
15 Apoala
16 Nextepec
CUICATECOS (a)
1 Tepeucila
CHINANTECOS (b)
2 Chicomexochitl
3 Tava
4 yagagochi
5 Tizatepec
6 Tepexitepec
7 Temazcalapa
8 Colpulalpan
9 Xuchitepec

TZAPOTECAPAN
10 Ixtepexi
TZAPOTECOS (f)
11 Sagacha
12 Chichicaspec
13 Mixitlán
14 Macuilxochitl
15 Teotitlán
16 Tlacolula
17 Mitla
18 Tetipac
19 Chichicapa
20 Ispuchtepec
21 Totolapa
22 Zoquitlán
23 Tlapanala
CHATINOS (d)
24 Iztapa
25 Zenzontepec
26 Olintepec
CHONTALES (e)
27 Pochutla
28 Huatulca
29 Xuchitepec
TRIQUES
30 Iztata
GUAVES
31 Salina Cruz
32 Huilotepec
33 Dovaguichi
34 S. Francisco del Mar
MIXES
35 Nexapa
36 Necotepec
37 Izcuintepec
CHIAPAN (29)
1 Iztapan

MAYAS
CHONTALES (a)
1 Iztapan
2 Iztapangajoya
TZOTZILES (b)
1 Tzinacantan
TZELTALES (c)
1 Custepetes
2 S. Pedro de las Salinas
CAMPECHE
1 Champotón
2 El Real
-YUCATAN
3 Celestúm
4 Sisal
5 Chuburnó
6 Talchuc
7 San Crisanto
8 Sta. Clara
9 Dzilam
10 Chantzonot
11 Sto. Domingo
12 Rio Lagartos
13 Isla de Mujeres
TAMAULIPECOS (31)
1 Altamira
2 Aldama
3 Soto la Marina
4 S. Fernando
5 Matamoros
OLIVES (32)
1 Xicotencatl
NAHOAS (C del Maíz) (33)
1 Alaquines
IRRITILAS (34)
1 Laguna de Viezca
CONCHOS (35)
1 Laguna de Jaco
2 Sta Rosalía
3 Julimes
JUMANOS (36)
1 Laguna de Patos
2 Laguna Sta. Maria
3 Laguna de Guzmán
4 Salinas

SIGNOS CONVENCIONALES

● Salinas Prehispánicas.
○ Salinas Posthispánicas

SALINAS - POSTHISPANICAS

1 El Doctor
2 Amoles
3 Rio Blanco
4 Lagunillas
5 Rio Verde
6 S. Francisco
7 Moctezuma
8 Salinas
9 Ramos
10 Concordia
11 Sto. Domingo
12 [illegible]
13 Tula
14 Pinos

15 Villa de Cos
16 Fresnillo
17 Sombrerete
18 Alamo
19 Mazapil
20 Lag. de S. Lorenzo
21 Reinoso
22 Mier
23 Sabinas
24 Laminita
25 Lag. de la Leche
26 Lag. de la Mula
27 Lag. de Palomas
28 Lag. de Encinillos

DIB. A. RUIZ

México, Agosto de 1928

DEPTO. DE LA ESTADISTICA NACIONAL

Vixtocihuatl era adorada por todos los pueblos de lengua nahuatl, y tal vez, con nombre equivalente, por otros pueblos del Sur de México. Su culto era popular y a él contribuían principalmente los salineros; pero los señores le dedicaban también solemnes ceremonias, en agradecimiento a los servicios que el control de las salinas y de la distribución de la sal, les había prestado como elemento de dominación. Entre todos los grupos indígenas se practicaban las abstinencias rituales de sal, que para la casta sacerdotal, solían ser extremadas.

Los comerciantes le rendían también un culto muy reverente y significativo. Los puntos de apoyo salineros, que por el crecimiento de las poblaciones y la creación de ciertas necesidades industriales, como la curtiduría y la salazón de carnes y pescados, habían llegado a ser insuficientes, crearon un tráfico de sal muy intenso entre los pueblos de una misma jurisdicción política y con los extranjeros que carecían de recursos salineros propios. Las condiciones topográficas de los distintos territorios y las dificultades de comunicación, dieron origen a muy interesantes circuitos comerciales que funcionaban regularmente, y la sal llegó a ser un elemento de cambio muy importante, una verdadera moneda y lo es aun, en ciertas regiones del Estado de Veracruz y entre los lacandones, por ejemplo. Los mercaderes, al lanzarse a sus aventuras lejanas y peligrosas comenzaban un ayuno de sal y chile, los dos estimulantes tan queridos y tan útiles para los indígenas, que debía durar todo su viaje.

La necesidad de estos puntos de apoyo salineros, nos podrá dar la clave, tal vez, de muchos de los misteriosos movimientos de población hasta hoy inexplicables.

Las tradiciones referentes a los olmecas recogidas por Sahagún, por ejemplo, nos dicen que las cuatro tribus de esa filiación radicadas en *Tamoanchan,* al Sur del Río Pánuco, decidieron separarse. Los olmeca-huaxtecas, promotores de la división, ocuparon la ribera derecha de ese río, con los puntos de apoyo salineros de Tampico, Pánuco, Chila y Tanchoy; los olmeca-xicalancas ascendieron hasta la Altiplanicie y en el Valle de México fundaron Teotihuacán, con el apoyo de sus lagos salados; los olmeca vixtoti, se asentaron en la Sierra de Juárez y la Mixteca, controlando, desde sus primitivos establecimientos de Teotihuacán del Valle y Monte Alban, tal vez, los numerosos manantiales y pozos salados de los valles vecinos, y, por último, los olmeca-nonohualca, conocidos más generalmente como mayas, marcharon por la costa hacia el Sur.

Caminando por la faja costera y navegando por la orilla del mar en busca del apoyo salinero que necesitaban, y explorando los territorios interiores, en demanda de las posibilidades geográficas adecuadas para su establecimiento, los olmeca-nonohualcas se detuvieron temporalmente en Tuxtla—la más antigua fecha maya proviene de ese lugar—en donde existen pozos de aguas de las que los indígenas obtenían sal, aunque poca, antes de la Conquista; prosiguieron después su marcha, rumbo al Oriente y siempre por la costa, no satisfechos sin duda, de los recursos naturales de esa comarca, hasta que llegaron a las fértiles llanuras de Tabasco, formadas por el acarreo milenario de la admirable red fluvial del Grijalva y del Usumacinta, deteniéndose, tal vez en Palenque, para dar principio al brillante emporio de cultura que los arqueólogos llaman Primer Imperio Maya.

Pero la costa del Golfo de México, desde la Laguna de Altamira, última salina de Tamaulipas, no les había ofrecido el apoyo salinero deseado, sin el cual el desarrollo económico que supone esa magnífica civilización, no hubiera sido posible. Sus navegantes siguieron explorando la costa, hasta que encontraron en *Potonchan* (Chanpotón) la primera salina de la Península Yucateca, por lo cual figura este lugar en las tradiciones como el lugar de desembarco de ''la gran bajada'' de pueblos que llegó por Occidente. No se conformaron con ésto, sin embargo; prosiguieron su exploración, hasta que dieron, por fin, con el apoyo salinero necesario, al encontrar las riquísimas salinas del Real y de Celestum, donde principia la ininterrumpida costa salinera del Norte de Yucatán. Las ruínas de Jaina, únicas correspondientes al Primer Imperio en todo el Centro y el Oriente de Yucatán, son una corroboración suficiente de esta hipótesis. El Gran Imperio Palencano contaba con el punto de apoyo necesario, para que la laboriosidad agrícola, el genio artístico y la sabiduría profunda de los individuos que la constituyeron (olmeca-nonoalcas como estrato privilegiado de alta cultura; arcaicos, y ciboneyes o caribes, tal vez, como estratos inferiores), pudieran elaborar una de las más elevadas culturas de la América y del Mundo: la cultura Maya.

Museo Nacional de México,
México, D. F.

LAS PLANTAS SAGRADAS DE LOS AZTECAS Y SU INFLUENCIA SOBRE EL ARTE PRECORTESIANO

Por Alfonso Toro

CASI todos los pueblos de la antigüedad consagraron a los dioses o deificaron a las plantas tóxicas, que poseían virtudes hipnóticas, narcóticas o estupefactivas, que, o apagaban el hambre y la sed, o mitigaban el dolor, o producían una especie de embriaguez, durante la cual el paciente tenía visiones que le apartaban de la realidad. Los adivinos, hechiceros y sacerdotes de las tribus primitivas, conocedores de esas virtudes, aprovecháronse de ellas y se dieron a interpretar los sueños y visiones engendrados durante la embriaguez, monopolizando el uso de tales plantas y convirtiéndose en intermediarios entre la multitud y los dioses a quienes estaban consagradas, o de quienes eran viviente representación.

Ejemplos de lo que hemos dicho, los tenemos: en el *hípice,* usado por los escitas para no sentir el hambre; en el *laurel* consagrado a Apolo, cuyas hojas mascaba la Pitonisa antes de pronunciar los oráculos; en el *muérdago* sagrado, que los druídas repartían al pueblo como una panacea; en la *coca* de los peruanos dedicada al Sol, y en tantas otras plantas del Antiguo y del Nuevo Mundo, a las que se han atribuido maravillosas virtudes.

Los pueblos semicivilizados que habitaron el actual territorio de la República Mexicana antes del descubrimiento de América, conocieron desde tiempos remotísimos las secretas propiedades de las plantas, y también consagraron algunas de ellas o los dioses o las deificaron, considerándolas como seres animados. Ese conocimiento remonta a época tan lejana, que se puede asegurar ya lo poseían los primeros habitantes civilizados del país, es decir, los toltecas, por otro nombre llamados ulmecas y xicalancas.[1] Así Sahagún, refiriéndose a ellos, dice:—

> ''Tenían asimismo mucha experiencia y conocimiento los Tultecas, en cuanto que conocían las calidades, y virtudes de las yerbas, y sabían las que eran de provecho, las que eran dañosas y mortíferas, las que eran simples, y por la gran experiencia que tenían de ellas, dejaron señaladas y conocidas las que ahora se usan para curar, porque también eran médicos, y esencialmente los primeros de esta arte que se llamaban *Oxomococipactonatl, Tlatecuinxochicaoaca,* los cuales fueron tan hábiles en conocer las yerbas, que ellos fueron los primeros inventores de la medicina, y aun los primeros médicos herbolarios.''[2]

Muchas eran las plantas a las que los antiguos mexicanos rendían culto, o usaban en sus ceremonias religiosas. Entre ellas, citaremos: el zacatón llamado *malinalli;* el maguey, convertido en la diosa *Mayauel;* el chile o pimiento, de donde nació *Chantico* ''la Señora del Chile''; el maíz, que había dado origen a una serie de númenes; pues ya era *Xilomen* la diosa del maíz tierno, ya *Toci* que presidía a su madurez, ya *Cinteotl* diosa del maíz por excelencia. Pero las plantas de que acabamos de hablar y otras semejantes, aunque importantísimas por el papel que sus símbolos y representación alcanzaron en códices, esculturas y cerámica de los pueblos anteriores al descubrimiento de América, no son de las que vamos a tratar prefrentemente en este trabajo; sino de aquellas otras que por sus propiedades embriagantes fueron consideradas como sagradas, y aun como reales y verdaderos dioses.

---

[1] Véase Plancarte y Navarrete *Prehistoria de México,* quien con buenos argumentos prueba la identidad de los toltecas con los ulmecas y xicalancas.

[2] Capítulo XXIX. *Que trata de todas las generaciones que a esta tierra han venido a poblar. Párrafo primero: que trata de los Tulanos o de los Tultecas, primeros pobladores de esta tierra que fueron como los troyanos* (Página 109). El citado Plancarte y Navarrete, al citar el trozo que hemos reproducido, modifica su ortografía, diciendo: *Oxomoco Cipactonal y Tlatecui Xochicoaca.*

El mismo P. Sahagún ocupa todo un capítulo de su *Historia General de las cosas de Nueva España* con la enumeración y propiedades de las plantas que pueden producir la embriaguez, y cita las siguientes: el *coatlxoxouqui* y su semilla llamada *ololiuqui;* el *peiotl,* peyote, el *tlapatl,* el *tzitzintlapatl,* el *mixitl,* los *honguillos* llamados *teonanacatl,* le *tochtetepo,* el *atlepatli,* el *aquiztli,* el *tenxoxoli* y el *quimichpatli.*[3]

De todas estas plantas, las más importantes por el uso que tenían en conjuros y ceremonias religiosas, son: el *peyote,* el *coatlxoxouqui* con su semilla el *ololiuqui,* y los hongos *teonanacatl,* a los que hay que agregar el *tabaco,* de uso imprescindible en el culto de los antiguos mexicanos. Estas especies vegetales eran las empleadas por sacerdotes, médicos y hechiceros para provocar la embriaguez ritual, usándolas ya ellos mismos, ya los enfermos o pacientes deseosos de averiguar lo desconocido; pero, aun en este caso, la planta se usaba bajo la dirección de aquéllos, y las visiones, risibles, bellas o absurdas, eran por ellos interpretadas; pues sólo el sacerdote, el hechicero o el médico, papeles que en aquellos pueblos se confundían, eran los que tenían derecho de manejar tales plantas y de servir de intermediarios entre los dioses y el común de los mortales.

En confirmación de lo que decimos, véase cómo se expresa el Br. Hernando Ruiz de Alarcón, en su *Tratado de las supersticiones y costumbres gentílicas que hoy viven entre los indios naturales desta Nueva España,* escrito a principios del siglo XVII:—

> ''Es de advertir que casi todas las veces que se mueven a ofrecer sacrificio a sus imaginados dioses, nace de mandarlo y ordenarlo así algunos sátrapas, médico, sortílego, o adivino, de los otros indios fundándose los más de ellos en sus sortilegios, o en lo que se les antoja desatinados de la bebida que llaman *ololiuhqui* o Pezote -Peyote-, o Tabaco, como se declarará en su lugar.''[4]

II

El Peyote, *Echinocactus Williamsii,* planta cáctea mexicana, de la que se conocen algunas variedades, se halla hoy perfectamente estudiada, debido a los trabajos de varios sabios americanos y europeos, especialmente de Mooney, Diguet, Lewin, Prentiss y Morgan y Havelock Ellis, entre los antiguos; y E. Z. Newberne, Chas. H. Burpe, A. Rouhier, Raymond Briau y otros, entre los modernos.[5]

---

[3] Libro XI, Capítulo VII. En que se trata de otras yerbas. Párrafo primero: de ciertas yerbas que emborrachan.

[4] *Anales del Museo Nacional,* tomo VI, p. 134.

[5] La bibliografía del *Peyote* es ya bastante extensa. Entre las obras más modernas que de él se ocupan, son importantes: ''Le peyotl, la plante qui fait les yeux emerveillés'' por A. Rouhier (1927), ''Du Peyotl dans les etats anxieux'' por Raymond Briau (1928). Véase la bibliografía publicada por este último al fin de su obra; aunque es incompleta.

El uso del peyote se extendía en la época precortesiana, no sólo entre las razas civilizadas, sino también entre las tribus semisalvajes, como lo da a entender el P. Sahagún, al decir que lo usaban los *chichimecas,* palabra que en sus escritos designia en general a los pueblos que vivían de la caza y no hablaban la lengua mexicana. Con el testimonio de diversos cronistas, puedo demostrarse que hacían uso de dicha cáctea, tanto para embriagarse como para aplicaciones medicinales y adivinaciones: los zacatecos, guazancoros, tepecanos, tepehuanos, coras, nayaritas, indios de Sonora, serranos, caxcanes, huicholes, tarahumaras, apaches, mezcaleros y comanches.[6]

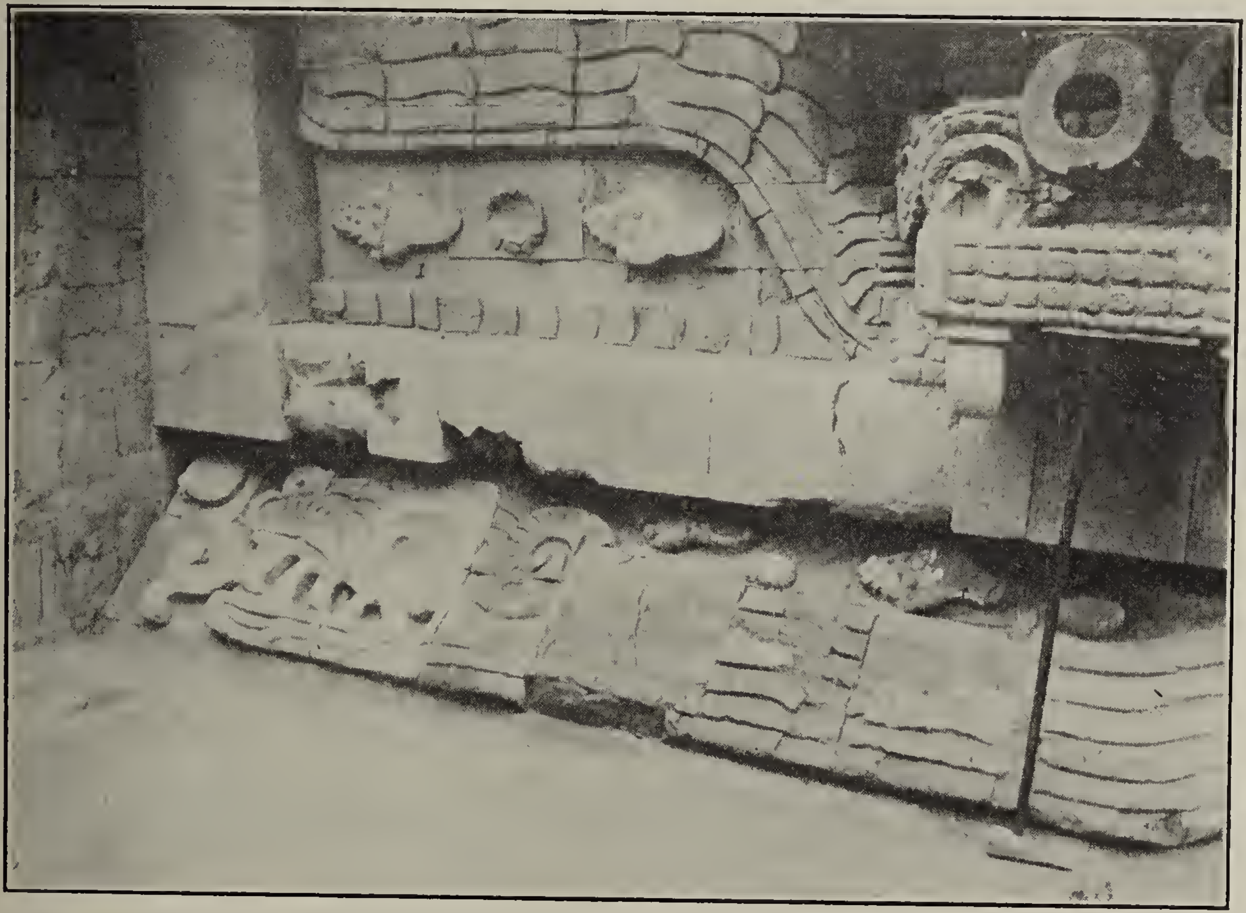


Fig. 1—PIRÁMIDE DE QUETZALCOATL EN TEOTIHUACÁN, EN QUE SE VEN RELIEVES EN FORMA DE PEYOTES ESTILIZADOS, QUE SE MARCAN CON LA LETRA 1

De que los antiguos toltecas conocían las virtudes del peyote, nos parece encontrar una prueba en la antiquísima pirámide de Quetzalcoatl, en Teotihuacán. En efecto, los relieves que, según los arqueólogos, representan caracoles (Fig. 1), no son, a nuestro entender, sino estilizaciones del peyote, usado en la hechicería, la medicina y el culto de los dioses, y que indudablemente tenía íntima relación con el de Quetzalcoatl, que era shaman, brujo o hechicero.[7]

---

[6] Arlegui, P., *Crónica de la provincia de N. P. San Francisco de Zacatecas,* parte 2/a., cap. VI, p. 154–155; Arias, P., Informe, p. 26, *Alegre Historia de la Compañía de Jesús;* Ortega, P., *Apostólicos afanes* publicada en México por D. Manuel Olaguíbel bajo el título de *Historia del Nayarit,* p. 22 y siguientes; Hernández, Dr. Francisco, *Historia Plantarum Novae Hispaniae,* p. 71 del tomo III, Edición de Madrid de 1790.

[7] Sahagún al Capítulo III del Libro III de su obra *Historia General de las cosas de la Nueva España,* que trata de Quetzalcoatl, lo titula: "Dase noticia de quien era Quetzalcoatl, otro Hércules, *gran nigromántico,* donde reinó y de lo que hizo cuando se fue." El patrono de los maestros mágicos o naualteteuctin, era Quetzalcoatl como puede verse en Labarthe, *Revue Americaine,* serie II, tomo II, p. 222–225.

Además de la forma de los relieves, que tienen gran semejanza con ciertas especies de dicha cáctea (Figs. 2, 3, y 4), hacen aun más verosímil lo que decimos, tanto el que los monumentos de Teotihuacán fueron construídos en una región muy alejada del mar o de los grandes lagos, donde pudiera encontrarse esta especie de caracoles gigantes, como también que entre los coras y huicholes, tribus degeneradas que sin duda tienen parentesco con la raza nahoa, y en las que se conservan muchas tradiciones mexicanas[8] en las costumbres y en el culto, los peyoteros, o sea los encargados de peregrinar para traer el peyote, en su pintura facial usan casi todos símbolos que vemos en la pirámide de Quetzalcoatl. Efectivamente, Lumholtz, en su *Mexico Desconocido,* inserta una figura que muestra esa pintura, en apariencia sólo geométrica, pero con profundo y oculto significado, del rostro de un peyotero (Véase Fig. 5), y la explica de esta manera:—

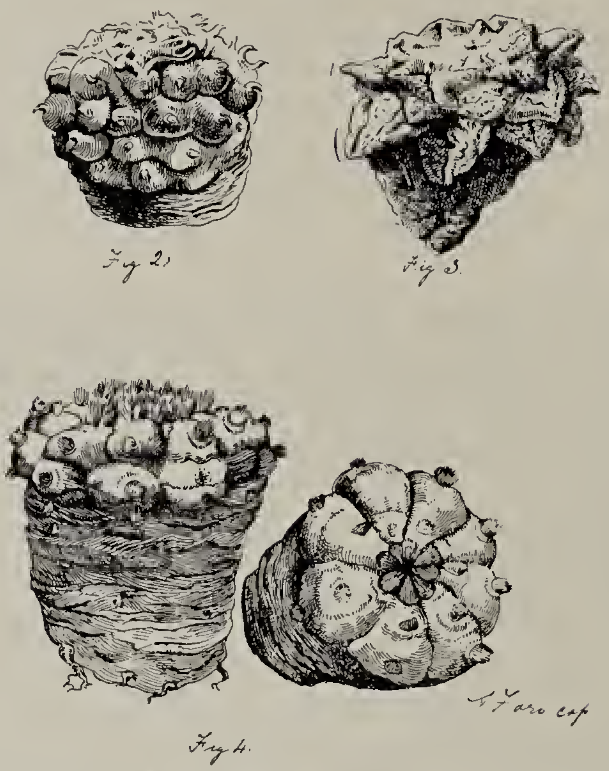


Fig 2.
Fig 3.
Fig 4.

FIGS. 2–4—DIVERSAS FORMAS DEL PEYOTE

> ''La ilustración de la derecha representa cuatro jícules, nombre dado al peyote en al Norte del país. Sobre la nariz hay unas nubes. En medio de la frente están dos serpientes enroscadas, símbolos de las lluvias, y tres hileras de nubes, de las que se desprende la lluvia pintada en líneas verticales a uno y otro lado de la cara. El efecto del agua se percibe en los granos de maíz designados por los puntos de abajo, así como por una guía de calabaza con hojas y fruto, pintada sobre la barba.''[9]

Si se compara el simbolismo de la pintura del rostro de los peyoteros, con el de la pirámide de Quetzalcoatl en Teotihuacán, se verá que es el mismo con lingeras modificaciones. Pero hay más aun: en los escudos ceremoniales de los huicholes, reproducidos por Lumholtz en el tomo II de su *México Desconocido,* planchas XI y XII, pueden verse estilizaciones del peyote que tienen gran semejanza con los supuestos caracoles de la pirámide de Quetzalcoatl.

---

[8] Véase Pimentel, F., *Cuadro Descriptivo y Comparativo de las Lenguas Indígenas de México,* tomo I, p. 229 y siguientes, y Lumholtz, *México Desconocida,* passim.

[9] Véase Lumholtz, tomo II, p. 141. Los coras dicen que ciertas enfermedades las causa el dios del viento y del jículi (el peyote); y debe recordarse que el dios del viento era Quetzalcoatl.

Debemos hacer notar que en un fresco de Teotihuacán, llamado de la diosa de la Agricultura, también se encuentran los llamados caracoles, entre una multitud de frutos y semillas, lo que indica que se trata de una especie vegetal, y no de la concha de un animal marino.[10] Como el asunto de que tratamos no tiene inmediata relación con nuestra tesis, bástenos con apuntar la sospecha de que los llamados caracoles, no son sino peyotes.

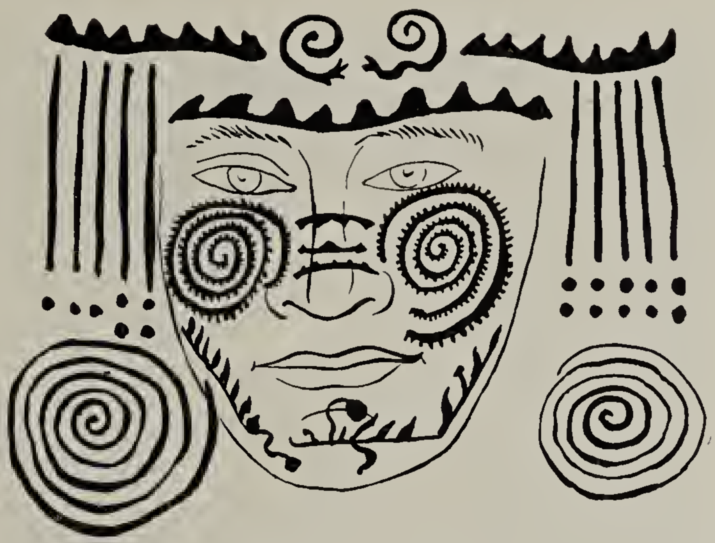


FIG. 5—PINTURA FACIAL DE LA DIOSA DE LAS NUBES OCCIDENTALES, EN UN PEYOTERO (SEGÚN LUMHOLTZ)

Por lo que respecta al uso del peyote en la actualidad, dice Rouhier:—

> "En las sierras lejanas de México, algunos indios, descendientes degenerados de las grandes razas precolombinas, han conservado en su integridad inicial el culto de la pequeña cáctea globulosa y glauca que un dios trajo a la tierra para permitir a sus hijos comunicarse con él. Sus *shamanes* la emplean a veces para obras adivinatorias o con un fin terapéutico mágico; pero nunca se empléo como distracción profana o de poder popular, y no forma parte aun, como el opio, la dulcamara, la coca o el cáñamo, de la temible lista de los venenos sociales."[11]

No será fuera de lugar advertir que el peyote sólo era usado hasta 1884, por los apaches y comanches, de entre todas las tribus indias que pueblan los Estados Unidos; pero que en los últimos años, el uso de dicha planta se ha extendido hasta las fronteras del Canadá, dando origen a la *Iglesia Nacional del Peyote,* registrada en Oklahoma con el título de *Native American Church.* A ella pertenecen los indios más ilustrados, y se mezclan en el nuevo culto ritos del cristianismo con una especie de comunión que tiene por base el peyote. Quizá el único objeto que los fundadores del nueve culto perseguían, era que no se les molestara por las autoridades por entregarse a la embriaguez que dicha planta produce; aunque no sería extraordinario que entre los nuevos conversos subsistieran antiguas prácticas de hechicería o *nahualismo,* anteriores al descrubrimiento de América, que trataran de encubrir con la apariencia del culto cristiano.

---

[10] Puede verse dicho fresco reproducido en color en la lámina 27, tomo I, de la obra publicada por la distinguida Dirección de Antropología de México, bajo la dirección del Doctor Manuel Gamio, titulada: *La Población del Valle de Teotihuacán.*

[11] *Le Peyotl, la Plante qui fait les Yeux emerveillés,* p. 91.

Por lo demás, los indígenas de algunas regiones de México donde el peyote se produce, han mezclado también su culto con las ceremonias de la religión católica, disfrazando bajo su manto vetustas supersticiones. Así en Rosales, Coahuila, región donde se cosecha la mejor calidad de dicha cáctea, se adora una imagen, ''El milagroso niño Jesús de Peyotes'' (Fig. 6), cuyo traje lleva bordadas las flores de la planta, en tanto que los cirios que ante él arden, están decorados, así como la peana y los candeleros, con estilizaciones del peyote. Ante esa imagen van los indios peyoteros, que peregrinan de muy lejos, a danzar y rendirle culto. Vemos pues que, bajo la devoción aparente a una imagen cristiana, disimulan el culto idolátrico por la planta que les produce el bienestar y la alegría, lo que era perseguido con tanta severidad por los primeros misioneros cristianos, como los sacrificios humanos y la antropofagía.

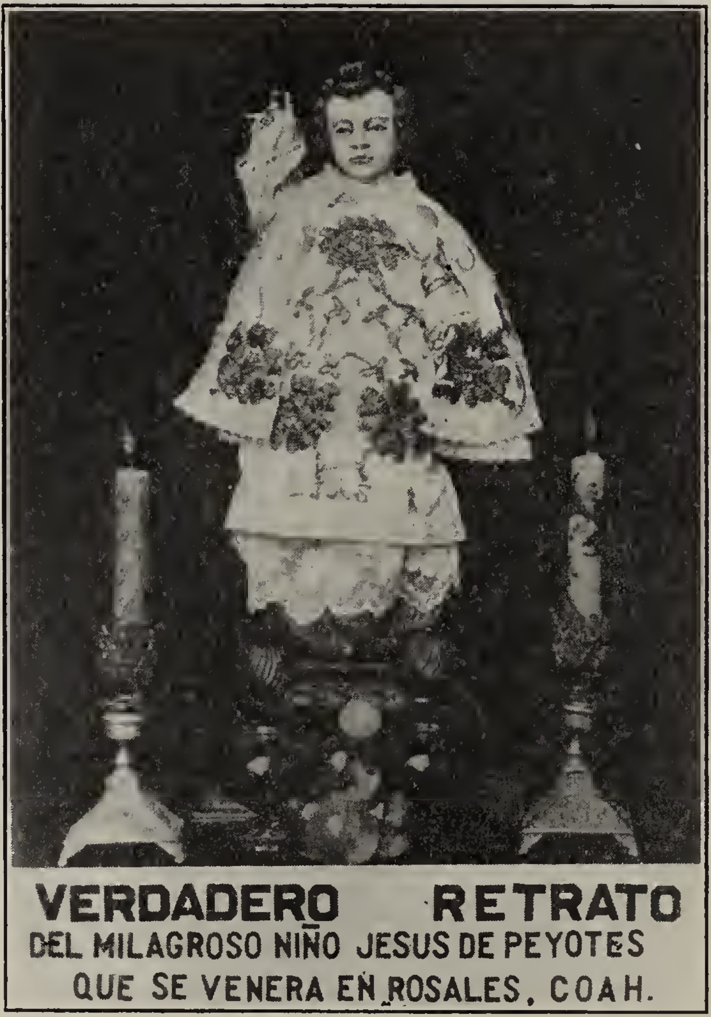

VERDADERO RETRATO
DEL MILAGROSO NIÑO JESUS DE PEYOTES
QUE SE VENERA EN ROSALES, COAH.

FIG. 6

Los indios, en la antigüedad, al igual que las tribus entre las cuales se ha conservado el uso de la cáctea hasta nuestros días, vieron en el peyote una verdadera panacea. En ella encontraban no sólo el medio de saciar el hambre y la sed, de volverse insensibles a la fatiga y apagar el ardor de los deseos venéreos; sino la euforia y el éxtasis que produce la embriaguez por ella ocasionada, y que no únicamente hacen mirar la vida con los más risueños colores; sino que provocan el delirio y las visiones coloridas que son su consecuencia. Por esto han considerado la planta como un ser viviente, como una deidad a la que hay que ofrecer sacrificios; porque es capaz de presagiar lo porvenir, de descubrir las cosas robadas, a los autores de maleficios y hechicerías, y aun de poner a sus devotos en comunicación personal con la divinidad, llegando a aparecérseles bajo la forma de un anciano que contesta sus preguntas.

Lumholtz, en su interesante obra *El México Desconocido,* y otros autores, han descrito minuciosamente las largas peregrinaciones que emprenden los tarahumaras, coras y huicholes, hasta Catorce y otros lugares remotos situados en los Estados de Chihuahua, Coahuila, Zacatecas y San Luis Potosí, para hacer recolección de la planta, y los ritos y supersticiones que practican, tanto durante el camino como al cosechar la cáctea, así como bailes y ceremonias con que se hace el consumo de ella, y que lo convierten en un rito religioso, en una verdadera comunión, íntimamente relacionada siempre con el culto al fuego.[12]

El culto del peyote tiene algunas variantes entre las diversas tribus que lo usan, variantes que han estudiado el mismo Lumholtz, Mooney, Santoscoy A. &;[13] pero siempre se observa que los consumidores de peyote encienden grandes fogatas para cantar y danzar.

Hácese el baile en torno de ellas, al son de un tamboril semejante al *huehuetl* de los aztecas, del rascador formado por huesos de venado con muescas, llamado por los antiguos mexicanos *omichicahuaz,* y de otros rústicos y primitivos instrumentos musicales, los más de ellos usados en las danzas rituales de los tiempos precortesianos, por los sacerdotes, y dura la fiesta sin interrupción desde las nueve o diez de la noche del sábado, hasta mediodía del domingo.

La forma en que se usa el peyote, es ya en tajadas, que se mascan con una poca de agua, ya molido con agua; se forma así una bebida ligeramente amarga, mucilaginosa, de color gris, que es la que consumen los indios en México.

En la imposibilidad de hacer un detenido estudio del peyote desde los varios puntos de vista de la Botánica, la Química y la Medicina, remitimos a los curiosos a la magnífica monografía de Rouhier,—titulada *Le Peyotl, la Plante qui fait les Yeux emerveillés,* publicada en París el año pasado, y al estudio de Raymond Briau, *Du Peyotl dans les Etats anxieux,* que acaba de salir a luz. Nosotros nos vamos a limitar a hacer referencia a algunas de las alucinaciones que produce, desentendiéndonos casi por completo de los demás fenómenos fisiológicos y psicológicos que produce la embriaguez peyótica, por interesantes que nos parezcan.

De los alcaloides encontrados en el peyote, y a los que debe sus principios activos,[14] es el más importante para nuestro objeto la mezcalina, que es la que produce las alucinaciones visuales. Debe advertirse que influye poderosamente en la producción de ellas, el ceremonial en uso entre los consumidores de la cáctea, como son: los cantos, el sonido de los instrumentos musicales, el deslumbramiento provocado por la hoguera que brilla en medio de las sombras de la noche, y aun los ritos a que se entregan los sacerdotes y hechiceros. Mientras duran las danzas, se recomienda a los consumidores de la cáctea, que no separen la vista del *peyote sagrado,* que se coloca en el centro del círculo de los danzantes, dentro de ciertas líneas simbólicas y rituales y esto acaba por producir una sugestión hipnótica.

---

[12] Lumholtz, *op. cit.,* capítulos XIX del tomo I, y VII a IX, y XV del tomo II.

[13] Santoscoy, "Colección de Documentos," p. LVII, *Notas Etnográficas del Ingeniero Oficial del Estado Rosendo Corona;* Diguet, Leon, *La Sierra del Nayarit et ses Indigenes; id.,* le Peyotl et son usage rituel chez les Indiens du Nayarit, *Journal de la Société Americanistes de Paris.*

[14] Los principios activos del peyote se deben a la presencia de alcaloides que han sido aislados, clasificados y determinados tanto en su constitución como en sus propiedades químicas y reacciones especiales por Lewin, Heffter, Spath y Kauder.

Este clasifica químicamente dos grupos de alcaloides. El grupo A, que comprende los solubles en el éter; y el grupo B, que comprende los alcoloides poco solubles en el etre; pero solubles en el cloroformo.

En el primer grupo, se comprenden: la *anhalonina,* la *peyotina* y la *lophophorina,* el más tóxico de los alcaloides del peyote. En el grupo B, se clasifican: la *mezcalina,* la *anhalamina* y la *anhalonidina* La mezcalina, que produce alucinaciones de la vista,—tiene para nuestro estudio especial interés.

Cuando el paciente, después de cumplir todas estas ceremonias, y consumir una gran cantidad de peyote, ha llegado a la embriaguez delirante, vienen las alucinaciones; aunque tenga los ojos abiertos, y llegue a creer que se halla en inmediata comunicación con el espíritu de la planta, que generalmente se le aparece bajo la forma de una divinidad. Entonces percibe visiones calidoscópicas, atravesadas por relámpagos claramente definidos, formas y paisajes maravillosos que cambian a cada son de tamboril; pues como ha hecho observar Havelock Ellis, se produce lo que se ha llamado la ''Syntesia peyótica'', es decir, ''la audición colorida'', la trasposición de las sensaciones auditivas al teclado de las visuales, y el sujeto asiste pasivamente a una sinfonía fantástica de la visión.

Hablando de la intoxicación producida por la mezcalina, principal factor de la embriaguez peyótica, dice Kretschmer:—

> ''Se observa—principalmente. . .: 1/o. Cambios en el grado de intensidad de las impresiones sensoriales, con exaltación de la susceptibilidad por las diferencias más mínimas y matices más exquisitos. Las impresiones ordinarias parecen más intensas. Las impresiones intensas llegan a ser deslumbradoras cuando luminosas, de una sonoridad excesiva cuando se trata de impresiones auditivas. El mundo ambiente aparece inundado de luz, iluminado por el Sol, lleno de armonía, atestado de colores, de una plasticidad exquisita, desbordante de expresión; *cada detalle reviste una importancia extraordinaria; los rostros que se encuentran al paso tienen rasgos acentuados como los de los actores.*''[15]
>
> ''El ojo,'' dice Briau, ''parece gozar al principio de la embriaguez peyótica de una actividad exaltada. El acrecentamiento de la agudez visual, permite discernir detalles ínfimos, que hubieran escapado a un ojo normal.''[16]

Cuando avanza la embriaguez, comiénzanse a percibir manchas coloridas, con tendencias a tomar forma; pero de una intensidad y riqueza de colorido a nada comparable, ya que exceden a la luz eléctrica o a los fuegos de artificio. Después viene una sucesión de imágenes, valiosas por su variedad y por la intensidad de sus colores, y luego sobreviene la ''sinfonía fantástica de la vision''; *pero lo más curioso del caso es, que el peyotizado aun en medio del paroxismo de la fantasía, está consciente de la irrealidad de sus visiones, y puede largo tiempo después de que la embriaguez ha pasado ''revivir por el recuerdo con una intensidad no acostumbrada las visiones de su embriaguez.''*[17]

Para concluir lo referente a las visiones causadas por el uso del peyote, nos parece pertinente el reproducir en seguida dos de las experiencias hechas en los Estados Unidos y en Europa con dicha planta, advirtiendo que las visiones peyóticas, como las producidas por el opio o el *hachschis,* son resultado del desarrollo intelectual del subjeto. La planta no da inteligencia al que no la tiene, por más que otra cosa parezca al que la usa.

---

[15] Kretschmer, *Manual theorique et practique de psichologie medicale,* (traduit par Yanpilevitch), p. 52.

[16] Briau, *Du Peyotl dans les Etats anxieux,* p. 30.

[17] Briau, *op. cit.,* p. 38.

Un experimentador, dice:—

> ''La primera sensación que tuve, cuando tomé la droga, vino al cerrar mis ojos al descuido. Instantáneamente apareció en el campo de la visión una multitud *de tubos de luz bastante viva, abajo de los cuales rodaban sin interrupción bolas rojas y verdes del tamaño de un chícharo. Los tubos de luz se encorvaban sobre sí mismos en forma de letras; pero sin expresar nada y lentamente volvían a encorvarse, formando las figuras más grotescas, girando rápidamente en revoluciones, continuas, las bolas verdes y rojas se movían en direcciones opuestas y siempre con gran velocidad.* Todo el campo de la visión entre estas ruedas silenciosas estaba lleno de una masa cambiante verde. Los colores eran maravillosos. *Eran los colores del espectro; pero aumentados con tal intensidad, como si fueran bañados por la luz más fuerte del Sol. No hay palabras para dar una idea de su intensidad o de su incesante y persistente movimiento.* Las figuras cambiaban constantemente de forma y de color; *pero dibujando siempre una serie de fantásticas curvas que revolucionaban rápidamente y vibraban sobre su propio eje. Las formas se movían en variados dibujos desde los más ricos arabescos y elegantes tapices de Siria, a las más sencillas figuras de la geometría plana.* En cada nueva forma venía un nuevo aflujo de luz y cada figura primero aparecía, coloreándose desde el blanco más puro, hasta teñirse después con el rojo obscuro de la púrpura. Cuando abría los ojos y sentía la impresión de la luz, las visiones desaparecían como estrellas fugitivas, perdiéndose entre la luz del día. . . .''[18]

En otra experiencia hecha por Briau, el sujeto expresa así sus visiones:—

> ''Cuando fijo mis miradas en la obscuridad tratando de acomodarlas a larga distancia, comienzo a percibir *pequeñas estrías muy brillantes que atraviesan mi campo visual y se dirigen rápidamente de arriba a abajo, y un poco oblicuamente como las gotas de la lluvia.* A veces esta *estriación chispeante, invade mi campo visual a la vez de derecha y de izquierda, resultando un cruzamiento incesante de estos elementos.* En raros intervalos, *un disco de fuego de las dimensiones de una moneda de cinco francos, aparece en el cuarto supremo derecho de mi campo visual y lo atraviesa oblicuamente con gran rapidez.*
>
> Me levanto y miro sobre mi diván, del cual ya no distingo la forma, pero del cual sé el lugar. *Finas rayas paralelas entre sí, tenues como hilos de oro, ocupan todo el emplazamiento del mueble, cintilan y parecen cambiar de lugar rápidamente en el sentido de la mayor dimensión de mi lecho de reposo, como si fueran arrebatadas por el hilo de agua de un torrente.* . . .
>
> A las 22 horas, para no autosugestionarme delante de los fenómenos visuales arriba descritos, doy un paseo en el parque, en compañía de uno de mis camaradas, en las sombras, entre los bosquecillos sufro impresiones visuales nuevas: *manchas coloridas de verde, de violeta, de amarillo y rojas, de las dimensiones de un confeti, llenan mi campo visual;* después de este fenómeno, que considero como una ilusión fundada en la percepción de una raya de luz entre las ramas de los árboles, veo en un rincón obscuro una forma blanca, como una enfermera que viniera hacia nosotros. . . .
>
> Escruto la obscuridad y nacen nuevas visiones, las formas se precisan, los colores se hacen más vivos, muy luminosos, aparece sobre lana un dibujo de un matiz verde jade.
>
> Follajes sembrados sobre los muros del cuarto, hojas de acacia cuyos foliolos están coloridos cada uno, de negro, de blanco y de rojo. Follajes de nenúfar y de arce rosa, blanco muy puro, azul pálido. Todos estos elementos muy sencillos por sí mismos me interesan prodigiosamente porque tienen colores muy bellos y muy luminosos, y también por la gracia con la que están dispuestos sobre este fondo negro que les da valor, se renuevan frecuentemente, evolucionando siempre, de derecha a izquierda.
>
> De nuevo en la noche, tengo la visión clara de motivos de decoración espléndidos; una flor de loto estilizada, colocada casualmente sobre una tapicería de color obscuro me detiene largo tiempo, por la riqueza de sus matices rosa, degradados desde el tallo hasta la orilla de los sépalos. *Tengo siempre la impresión de que no puedo fijar nunca el mismo elemento del*

---

[18] Prentiss, D. W., and Morgan, F. P., Mezcal Buttons, reprint from the *Medical Record*, August 22, 1896.

motivo decorativo, y me parece en efecto que se substituyen los unos a los otros en la misma forma y el mismo colorido con una rapidez inconcebible.

Lluvias de flores que no sabría nombrar, soberbias por su colorido, caen ante mis ojos. *Después, sobrevienen líneas más geométricas, una imagen que yo no sabría comparar a nada mejor, que a uno de estos cristales de nieve muy aumentados, que se presentan en los libros clásicos. La figura alcanza dimensiones de unos 50 centímetros, y está matizada de un color de rosa espléndido. Un disco rojo, flamante como un sol, del tamaño de un platillo, y llevando cuatro prolongaciones espinosas, dispuestas en rayos, todo sembrado de puntos brillantes como diamantes.* Varias figuras de esta forma se presentan al mismo tiempo y después suben muy rápidamente.

Después son manchas violetas, azules, verdes, amarillas, rojas, sembradas por grupos al azar. *Rayas ondulantes de luz viva florecente, canelones de fuego, millares de pequeños soles de fuegos artificiales. . . .*

Sobre el muro, delante de mi lecho, se dibuja *una cruz de Malta, cuyas ramas tienen aproximadamente 28 centímetros, es de un color violeta intenso que nunca he visto en ninguna parte.* Después una plaqueta de esmalte fino llevando una inicial M, con un dibujo muy delicado que no sabría reproducir ahora, pero que me parece que se aproxima a las iluminaciones de los viejos misales, esta placa sufre oscilaciones que la llevan a los cuatro rincones de mi campo visual.

Piedras preciosas a montones, después racimos de esmeraldas en forma de uvas; toda clase de gemas de las que algunas son de color—desconocido para mí, ya en cascadas, ya montadas en placas de plata; una ola de listón tricolor cuya vista me atrae. . . .[19]

III

Es de sentirse que respecto del *Coatlxoxouqui* (que en lengua mexicana quiere decir culebra verde) y de su semilla el *ololiuqui,* quizá la más interesante de las plantas sagradas usadas por los hechiceros y sacerdotes del México antiguo en sus ritos y supersticiones, no tengamos estudios verdaderamente científicos como respecto al peyote. Las referencias que encontramos de dicha planta en los antiguos escritores son muy escasas, y a ello ha contribuido, sin lugar a duda, el horror con que la veían los médicos y sacerdotes españoles, por creer que por medio de ella podían celebrarse pactos con el diablo. De allí que hayan ocultado aun los lugares donde se producía, lo que dificulta de tal manera su identificación, que en tanto que el botánico mexicano M. Urbina pretende que es una planta voluble que identifica con la *Ipomoea sidaefolia Choissy* y otras especies del mismo género, el Doctor Oliva supone que es el *Convolvulus microcalix,* y otros naturalistas mexicanos, a quienes hemos consultado, han manifestado que les es desconocida.[20]

Esta planta lleva también los nombres de: *Yololique,* que parece corrupción del anterior, *Cuezpallo y Coaxihuitl.*

Veamos lo que acerca de ella encontramos en los autores antiguos. El P. Sahagún, en su obra citada, dice:—

> "Hay una yerba que se llama *coatlxoxouhqui* y cría una semilla que se dice *ololiuqui;* esta semilla emborracha y enloquece; danla por bebedizos para hacer daño a los que quieren mal, *y los que la comen parecenles que ven visiones y cosas espantables,* danla a comer o a beber los hechiceros a los que aborrecen a algunos para dañarlos. Esta yerba es medicinal y su semilla úsase para la gota moliéndola y poniéndola en el lugar donde está."[21]

---

[19] Briau, *op. cit.*, p. 85.

[20] Urbina, Manuel, El Peyote y el Ololiuhqui, *Anales del Museo Nacional de México,* tomo VII, p. 46 y sigs; *id., Catálogo de Plantas Mexicanas,* p. 243.

[21] Sahagún, *Historia General de las cosas de Nueva España,* tomo III, libro XI, capítulo VII, p. 241.

En la misma obra de Sahagún, al tratar de las yerbas medicinales se citan otras dos yerbas homónimas, que no hay que confundir con la de que vamos hablando: una llamada *''ololiuhque, o xixicamatic''*, y otra *''ololiuhqui o hueytzontecon.''*[22]

El célebre médico de Felipe II, Doctor Francisco Hernández, en su *Historia Plantarum Novae Hispaniae,* dice que el *ololiuqui* es llamado también *coaxihuitl* (yerba de la serpiente), que sus semillas contienen un veneno narcótico, que la planta es de la familia de las solaneas, y añade:—

> ''Indorum sacrificio, cum videre volebant versari cum superis ac responsa accipere ab eis, ea vescebantur planta, ut desiperent milleque phantasmata et demoniun observatium effigies circumspectarent.''[23]

Hemos dicho que los escritores antiguos procuraban ocultar las noticias que tenían sobre el *ololiuqui.* Como prueba de ello véase cómo se expresa Fr. Francisco Ximénez en su obra: *Quatro libros de la Naturaleza,* primero que dió a conocer los trabajos de Hernández en México, extractándolos. Ximénez traduce con ligeras modificaciones el párrafo sobre el ololiuqui, escrito por el médico de Felipe II, de esta manera:—

> ''De la Yerba que llaman 'Ololiuqui,' que quiere dezir planta de ojas redondas. Es el ololiuqui, que otros llaman cohuaxihuitl, que quiere dezir yerba de serpientes, la qual es una yerba retorcida que lleva las ojas thenues verdes de figura de coraçon tienen los tallos redondos thenues, y delgados las flores blancas larguillas, casi redondas y muy semejantes al culantro, donde le vino el nombre, tiene las rayzes delgadas como hebras, es caliente esta planta en el quarto grado, cura el mal francés mitiga los dolores, nacidos de frio resuelve las ventosidades y inchazones, el polvo de la rayz mezclado contrementina expele el frio y es gran remedio para los huesos quebrados y desconsertados, y para las caderas relajadas de las mujeres, tambien sirve la simiente en la medizina porque molida y bevida o en la caveça cura las enfermedades de los ojos y tambien bevida provoca a luxuria, es de savor y temperatura aguda y muy caliente, antiguamente los sacerdotes de los ydolos que querian tratar con el demonio y tener respuestas de sus dudas, comian desta planta para tornarse locos y para ver mil fantasmas, que se les presentaban y ponian delante en lo qual, no dexa de ser esta planta al solano maniaco de dioscorides; no sera grande yerro dexar de dezir aquí donde nace, pues ymportara muy poco que esta yerba no se escriviere aqui ni aun que los españoles la conocieran.''[24]

Algo más sobre dicha planta podemos encontrar en la obra del Br. Hernando Ruiz de Alarcón, quien después de afirmar que los indios la adoran como si fuera un dios, añade:—

> ''El ololiuqui es un género de semilla como lantejas, que lo produce un género de yedra desta tierra, y bebida esta semilla priva del juico; porque es muy vehemente y por este medio comunican con el demonio; porque les suele hablar cuando están privados del juicio con dicha bebida, y engañarlos con diferentes apariencias, y ellos lo atribuyen a la deidad que dicen está en la dicha semilla llamada ololiuqui o cuezpalli, que es una mesma cosa.''

El mismo autor, dice en otro lugar:—

> ''El llamado ololiuqui, es una semilla como lantejas o hieros, la cual bebida priva del juicio y es de maravillar la fe que estos desdichados naturales tienen con esta semilla; pues bebiendo, como a oráculo la consultaban, para todas cuantas cosas desean saber hasta aquella a

---

[22] *Op. cit., id.,* p. 264 y 270.

[23] Hernández, *Historia Plantarum Novae Hispaniae,* tomo III, p. 32.

[24] Ximénez, Fr. Francisco, *Cuatro Libros de la Naturaleza y virtudes medicinales de las plantas y animales de la Nueva España,* p. 113. (Edición de Morelia.)

> que el conocimiento humano no puede llegar, como para saber las enfermedades . . . y para salir desta duda y semejantes, como de cosas hurtadas y de los agresores consultan esta semilla por medio de uno de sus embusteros médicos, que algunos dellos tienen por oficio beber esta semilla para semejantes consultas y el tal médico se llama *Payni,* por el dicho oficio, para lo cual se lo pagan muy bien y lo cohechan con comidas y bebidas a su modo.''[25]

El *ololiuqui,* según el citado escritor, priva del juicio en breve tiempo y produce visiones. Lo tomaban ya el médico, sacerdote o hechicero, ya el enfermo o persona por los primeros designada. Al que tomaba el ololiuqui se le aislaba en el oratorio o *santocalli,* no permitiéndose a nadie la entrada en dicho lugar hasta que al paciente se le había pasado el efecto de dicha yerba. La embriaguez por ella producida duraba uno o dos días y aun más, dándose casos de que el que la tomaba perdía la razón para siempre. Pasada la embriaguez era cuando se hacía la consulta de lo que se deseaba saber, y el que había tomado el *ololiuqui* daba respuesta a las preguntas que se le hacían.

Algunos de los tomadores de esta semilla, aseguraban que el *ololiuqui* se les aparecía bajo la forma de un viejo que les hablaba y comunicaba lo que deseaban saber.

Como se ve, son bien pocas las noticias que tenemos sobre el *coatlxoxiuqui* y su semilla el *ololiuqui,* a pesar de la excepcional importancia que ésta tenía en los ritos de los antiguos mexicanos. Además de otros empleos recordaremos que dicha semilla intervenía en la confección del *teopatli,* remedio o ungüento divino empleado por los sacerdotes, entre otros usos rituales, en la consagración de los reyes. Hablando de él, dice el Códice Ramírez:—

> ''Echaban juntamente con esta yerba (el tabaco) y cenizas, algunos alacranes y arañas vivas y ciento pies, y allí lo revolvían y majaban y después de todo esto le echaban una semilla molida que llaman Ololiuqui, que toman los indios, bebida para solo ver visiones cuyo efecto es privar de juicio; molían asímismo con estas cenizas gusanos negros peludos que solo el pelo tiene ponzoña; todo esto junto amasaban con tizne y echándolo en unas olletas ponianlo delante de su Dios diciendo que aquella era su comida, y asi la llamaban comida divina; con esta unción se volvían brujos y vian y hablaban con el demonio.''[26]

El uso de estos animales en la confección del ungüento divino, contribuía sin duda a sugerir imágenes de seres monstruosos, durante el delirio que provocaba.

Para concluir lo referente a las plantas sagradas embriagantes, sólo nos resta hablar de los hongos venenosos y el tabaco.

Pocos son los datos que podemos aportar sobre los efectos fisiológicos y psicológicos producido por el uso de dichas plantas, ya—que no se han hecho observaciones científicas, en condiciones semejantes a las en que eran empleadas en los tiempos precolombinos.

El P. Sahagún, en su obra tantas veces citada, dice:—

> ''Hay unos honguillos en esta tierra que se llaman *teonanacatl,* críanse debajo del heno en los campos o páramos: son redondos, tienen el pie altillo, delgado y redondo, comidos son de mal sabor, dañan la garganta y emborrachan, son medicinales contra las calenturas y la gota:

---

[25] Ruiz de Alarcón, Br. Hernando, Tratado de las Supersticiones y Costumbres gentílicas que hoy viven entre los Indios Naturales desta Nueva España, *Anales del Museo Nacional de México,* tomo VI, p. 142.

[26] *Crónica Mexicana* escrita por D. Hernando Alvarado Tezozomoc hacia el año de MDXCVIII anotada por el Sr. Lic. D. Manuel Orozco y Berra y precedida del *Códice Ramírez* &., p. 111 y siguientes.

hanse de comer dos o tres no mas: *los que los comen ven visiones* y sienten bascas en el corazón, a los que comen muchos de ellos, provocan a lujuria, y aunque sean pocos.''[27]

Estos hongos, carne de los dioses, como su nombre en mexicano lo indica, se comían también para actos supersticiosos, y la manera de usarlos nos lo dice Motolinía, en los siguientes términos:—

> ''Tenían otra manera de embriaguez que los hacía más crueles: era con unos hongos o setas pequeñas, que en esta tierra los hay como en Castilla; mas los de esta tierra son de tal calidad, que comidos crudos y por ser amargos, beben tras ellos o comen con ellos un poco de miel de abejas *y de allí a poco rato veían mil visiones, en especial culebras,* y como salían fuera de todo sentido, parecíales que las piernas y el cuerpo tenían llenos de gusanos que los comían vivos, y así medio rabiando se salían fuera de casa, deseando que alguno los matase; y con esta bestial embriaguez y trabajo que sentían, acontecía alguna vez ahorcarse, y también eran contra los otros más crueles. A estos hongos llaman en su lengua Teonanacatl, que quiere decir carne de Dios, o del demonio que ellos adoraban: y de la dicha manera con aquel amargo manjar su cruel Dios los comulgaba.''[28]

Orozco y Berra, hablando de la coronación de Motecuhzoma Xocoyotzin, y de los sacrificios hechos después de la habitual campaña, dice:—

> ''Sentado Motecuhzoma en el lugar supremo, entre los mismos dioses, vió inmolar a los prisioneros otomíes; aquel sacrificio le pertenecía en parte, supuesto estar ya revestido del carácter divino. Acabada la fiesta religiosa, los señores se reunieron a comer los hongos silvestres, que tienen la propiedad de trastornar el juicio cual si fueran bebida embriagante; durante el trastorno veían visiones, avisos divinos, de revelación para el porvenir y adivinaciones de lo futuro.''[29]

Por algún texto de la *Crónica Mexicana de Tezozomoc,* puedo venirse en conocimiento que los hongos susodichos llevaban también el nombre de *Cuauhnanacatl* o sea carne de las águilas.

Por lo que toca al tabaco, llamado *Picietl,* por los antiguos mexicanos, poco es lo que tenemos que decir, si no es que se consumían grandes cantidades de dicha planta en el culto de los dioses, como puede verse en Sahagún, Durán y otros de los primeros cronistas, y que en los antiguos códices es frecuente encontrar figuras de sacerdotes aztecas, llevando en una mano el *temaitl* o incensario, y en la otra la bolsa o *tecomate* del tabaco.[30]

Esta costumbre, con ligeras modificaciones, dura hasta nuestros días entre varias tribus indígenas, que han conservado muchos ritos de los antiguos mexicanos, como los coras y huicholes.[31]

---

[27] Sahagún, *op. cit.,* p. 242 del tomo III.

[28] Motolinía, Fr. Toribio de, *Historia de los Indios de Nueva España,* tratado 1/o, capítulo II, p. 23.

[29] Orozco y Berra, Manuel, *Historia Antigua y de la Conquista de México,* tomo III, p. 437.

[30] Véanse de Sahagún, Fr. Bernardino: *Historia General de las cosas de Nueva España,* Edición parcial en facsímile de los Códices Matritenses en lengua mexicana que se custodian en las Bibliotecas del Palacio Real y de la Real Academia de la Historia, estampas I a IV y XI del primero de dichos códices, y las fojas 63 (1) del Códice Mendocino, y Orozco y Berra, *op. cit.* p. 333 del tomo I, y Códice Ramírez, capítulo XXV.

[31] Lumholtz, *op. cit.,* tomo II, p. 50, hablando de los peyoteros, dice:—''Algunos atan colas de ardilla gris a las copas de los sombreros, y todos llevan bolsas de tabaco, que son parte esencial de los avíos de quien por el hecho de ir a buscar jículi, asume carácter sacerdotal. Se escogen especialmente para tal propósito, los bules pequeños y redondos, siendo los más valiosos los que tienen muchas excrecencias, naturales. Cada guaje, provisto de cordel y tapón, se lleva colgado del hombro.''

La gran importancia que tenía el tabaco en el culto y las hechicerías, todavía un siglo después de la conquista, nos la demuestra el Br. Ruiz de Alarcón en su obra antes citada, quien dice:—

> "Asimismo usaban varios sortilegios empleando el *piciete* o *tenesiete,* que es el tabaco con cal, usando de las manos para hacer varios signos y medidas, usando de ciertos conjuros y de un lenguaje figurado metafórico, que llaman *nahualtocaitl,* que quiere decir lenguaje de los hechiceros."

En la misma obra pueden verse varias oraciones y conjuros en que entra como elemento principal el tabaco.[32]

IV

Antes de tratar de la influencia que estas plantas embriagantes tuvieron sobre el arte de los antiguos mexicanos, no será fuera de lugar el hacer las siguientes observaciones.

Primera: que la religión de los antiguos mexicanos está tan intimamente ligada con el *nahualismo,* que en muchos casos se confunde con él. Para comprender la razón de esto, debe tenerse en cuenta que el *nahualismo* no era, como generalmente se cree, tan sólo lo relacionado con la creencia en la *tona;* sino que abarcaba el conocimiento de las ciencias ocultas, conservado por la casta sacerdotal. Dentro de él quedaban comprendidas las virtudes secretas de plantas, animales y minerales, la hechicería, la intervención de los dioses en los actos humanos, los ritos y oraciones con los cuales se le podía tener propicios; o se podía obrar sobre la naturaleza, y aun obtener ciertas nociones sobre los poderes hipnóticos.

El nahualismo no era privativo de una sola tribu; sino que existía en la mayor parte del territorio de la actual República Mexicana, y según el cronista Herrera se extendía hasta Honduras en la América Central.[33]

Adonde quiera que existía el *nahualismo,* eran conocidas las plantas sagradas y sus efectos; pues había una especie de sociedad secreta entre los *nahuales,* y las plantas sagradas y medicinales eran llevadas de unos lugares a otros, como ocurre hasta el día.

El P. Juan Bautista, dice:—

> "Hay mágicos, que se dan el nombre de *teciuhtlazque,* y también el de *nanahualtin,* que conjuran las nubes cuando hay peligro de tempestad, para que no reciban peligro las cosechas también hacen que una estaca parezca una serpiente, una estera un cienpiés, un pedazo de piedra un escorpión y otros engaños semejantes. Otros de estos *nahualin,* se transforman según la apariencia de un tigre, un perro o una comadreja. Se llaman a sí mismo *nanahualtin.*"[34]

Segunda: El culto del Sol y como derivado de él el del fuego, tenían íntima relación con el uso de las plantas sagradas, con las símbolos animales usados en los cómputos cronológicos del calendario y aun con los colores de las piedras, en una palabra con toda la ciencia oculta sacerdotal, vulgarmente llamada *nahualismo*.[35]

---

[32] El Br. Hernando Ruiz de Alarcón, tratando de los remedios que usan los hechiceros para curar, dice:—"Los medios son diversos, casi todos se reducen a conjuros y entran en ellos siempre el agua como principal agente, a veces el fuego, el *piciete* a *tenexiete,* y la tierra. *Op. cit.,* p. 198 y sig.

[33] Herrera, Antonio de, *Historia General de las Indias Occidentales o de los Hechos de los Castellanos en las Islas y Tierra Firme del Mar Oceano,* década IV, libro VIII, capítulo V, p. 384 y sigs. Brinton, Daniel G., *Essays of an Americanist,* p. 170 y sigs. y el libro del mismo, titulado: *Nagualism, a Study in Native American Folk-lore and History.*

[34] Bautista, P. Juan, *Advertencias para los confesores,* publicado en México en 1600, p. 112.

Tercera: que para los indígenas todo en la naturaleza está animado, tiene un espíritu, ya se trate de plantas, piedras, aguas, montañas o instrumentos de trabajo. Por eso a todo le rinden homenaje. Esta manera de concebir la naturaleza, observada por Lumholtz entre los coras y los huicholes, es la misma que se encuentra entre los antiguos pueblos precolombinos de nuestro país, cuando se estudian con atención las oraciones dirigidas a los númenes, en las obras de Sahagún, Balsalobre, Ruiz de Alarcón y otros escritores de los siglos—XVI y XVII.[36]

V

Pasemos ahora a la segunda parte de nuestro trabajo y veamos cómo las plantas sagradas que producían la embriaguez y excitaban la produción de alucinaciones en los sujetos a ella, pudieron influir en la creación artística.

El misterio de ella encuentra su último análisis en la filosofía. El arte expresa, ya sea el sentimiento individual o el sentimiento de la colectividad. El artista por medio de su obra conmueve a su tribu, a su ciudad, a su nación, o a su raza; pero éstas a su vez influyen sobre él y lo convierten en traductor de sus emociones hasta allí informes y caóticas.

En los pueblos primitivos el arte no es independiente de su aplicación práctica; sino que responde a una necesidad, y se le utiliza ya en el culto de los dioses, ya en otros usos de la vida pública o privada. En el primer caso, queda el arte subalternado a las inspiraciones de los sacerdotes, y sólo va haciéndose independiente lentamente.

El arte hierático, por su naturaleza está sujeto a convenciones, para la representación de los dioses o de sus símbolos, y da nacimiento a formas particulares en la obra de arte, es decir, a un estilo, resultado casi siempre de la deformación voluntaria o instintiva de las formas objetivas.

El arte de los antiguos mexicanos es esencialmente, salvo rarísimos casos, un arte religioso, un arte hierático que tiene por finalidad última el reproducir formas tradicionales, verdaderos símbolos. Influye en esta manera de concebir el arte, que el indio está acostumbrado a ver seres animados, no sólo en todos los seres de la creación, ya sean minerales, plantas o animales; sino aun en las herramientas, utensilios y edificios producto de las artes.

---

[35] En comprobación de lo que decimos, véase cómo se expresa el obispo Plancarte y Navarrete, en su obra *Prehistoria de México*, p. 235 y 256. ''Con mayor precisión encontramos enumerados los animales que debía sacrificar a su padre el hijo menor de Mixcoatl, en los Anales de Cuauhtitlán, en donde se nos dice que eran aguilas, tigres, culebras, conejos y venados, los que debían los chichimecas sacrificar al fuego. Los colores de estos animales, indicados en otro lugar del texto, nos enseñan haber sido representación de los cuatro puntos cardinales, mas el centro que estaba representado por el venado, y como el centro era el trono del fuego, el venado tenía que ser un símbolo del fuego, del sol, o del ardor, y en efecto tenemos el dios Xochipilli encargado del hogar doméstico y de carácter solar representado por un ciervo. . . .''

Véase también el artículo del Vizconde de Charencey, titulado: Des Couleurs considerees comme Symboles des Points de l'Horizon chez les Peuples du Nouveau Monde. Actes de la Société Philologique.

[36] de Alarcón, Ruiz, *op., cit.*, p. 143 y passim; Lumholtz, *op. cit.*, tomo II, dice: ''Para los indios, todo tiene vida en la naturaleza. Las Plantas, así como los seres humanos, encierran un alma pues de lo contrario no podrían vivir ni crecer. De muchas se supone que hablan, cantan y son sensibles a la alegría y al dolor. En invierno, por ejemplo, cuando los pinos están enrigecidos de frío suplican llorando al sol que salga a calentarlos. Cuando se insulta o se molesta a las plantas, estas acostumbran vengarse. . . .''

El artista, en un principio, produce arte impresionista, para traducir su visión externa del mundo; pero frente a este arte, que sólo pretende "reproducir la naturaleza a través del temperamento del artista," según la vieja definición de la escuela realista, surge otro, que sólo toma de ella (de la naturaleza) algunos elementos que modifica acomodándolos a una idea preconcebida. Estos elementos así aprovechados, pierden muchas veces su significación aparente e inmediata, para adquirir otra convencional. Se reniega así de la expresión externa de las cosas y se tiende a crear un arte que, por no tener relación alguna con ella, se pretende que pueda ser la verdadera expresión del espíritu. Según esta manera de concebir el arte, la metafisica sería el expresionismo en su más pura esencia.

Aplicando estos principios al arte precortesiano de México, veremos que, por regla general, es un arte más expresionista que impresionista; un arte en que predominan las experiencias internas, la traducción en forma, signos y colores, de la concepción religiosa y científica del mundo. Sólo ocasionalmente este arte se convierte en impresionista, dando preponderancia a la influencia del medio externo sobre el artista.

Fácil es explicarse, por lo demás, por qué el artista indígena tenía esa tendencia, atendiendo a la formación de la sociedad en los pueblos civilizados del México precortesiano. En todos ellos sus conductores primitivos, los fundadores de las ciudades y los legisladores, fueron *shamanes,* individuos pertenecientes a la casta sacerdotal. En todos ellos aun los guerreros estaban a esta casta subalternados; y en México, por ejemplo, los llamados reyes y emperadores por los cronistas, eran también sacerdotes o individuos escogidos por ellos o bajo su influencia. Aun los establecimientos educativos (Calmecac y Tepuchcalli), donde se formaban los jefes militares y los altos funcionarios del estado, estaban dirigidos también por sacerdotes. Todas aquellas sociedades giraban pues entorno del templo, y militares, comerciantes y artífices, enlazaban siempre sus ocupaciones íntimamente con la religión. Por esto el artista quedaba siempre subalternado a la casta teocrática, y el arte no era sino un siervo de la religión.

Cierto que en los tiempos más remotos se encuentran en los monumentos y en los utensilios, decoraciones al parecer puramente geométricas, que algunos etnografistas pretenden que se derivaron por imitación de las artes del tejido y la cestería; pero esta sencilla interpretación de los motivos decorativos, es falsa, por no estar de acuerdo con las concepciones artísticas de los salvajes, tan semejantes a las de los niños.

Las representaciones de objetos hechos por unos y otros, están sujetas a las mismas leyes de error. No los reproducen tales como los ven, porque nunca los miran al dibujarlos, aunque los tengan delante; sino que reproducen la imagen subconsciente, que de ellos se han forjado en la memoria. Así las partes del cuerpo humano, las dibujan como vistas desde el punto en que presentan su mayor dimensión y su aspecto más impresionante: dibujan el pecho y las caderas de frente, la nariz de perfil, las orejas planas y salientes, los pies de lado. Además, tanto los niños como los salvajes, repiten siempre los mismos tipos; porque su repertorio es tan reducido como convencional.

Volviendo a la llamada decoración geométrica (lineas paralelas, rectas y curvas entrelazadas, elipses, círculos y grecas), que por mucho tiempo se creyó no eran sino una expresión de algo interior e íntimo, algo como un ritmo musical de formas, sentido por el espíritu humano, y que no representaba ninguna imagen de realidad plástica exterior; a medida que se fué penetrando más en el conocimiento del hombre primitivo, se reconoció que tales decoraciones tenían un valor imitativo, y que para el salvaje eran una copia o representación: ya de las irisaciones de la piel de un animal, ya de los movimientos de la serpiente perseguida; en una palabra, reproducción de sensaciones, percibidas por sus órganos finísimos. Así Ehrenreich, ha demostrado que la ornamentación *netamente geométrica* usada por algunas tribus indígenas del Brasil, no representa lo que a primera vista pudiera parecer,—simples combinaciones de líneas,—sino algunos animales de aquel país. Allí donde el ojo europeo no ve sino líneas paralelas, el indígena ha representado murciélagos con las alas extendidas o siluetas de serpientes.[37]

No hay pues un repertorio artístico igual para todos los pueblos; no hay tampoco nada instintivo, ni es cierto que los hombres hayan empezado siempre creando las mismas decoraciones geométricas y coincidiendo por instinto en los mismos tipos.

Las formas geométricas, idénticas en apariencia, representan cosas distintas. El hombre primitivo, a semejanza de los salvajes actuales, percibía las formas y los colores de manera muy distinta que el hombre civilizado. Cosas para nosotros idénticas, para él eran totalmente distintas, y lo que para nosotros es únicamente geométrico, para él era altamente expresivo. A semejanza del niño que ve un muñeco en un leño, al que le dirige la palabra, trata como a un ser animado, así para el hombre primitivo todo era vivo, todo tenía un espíritu que podía escuchar y ver las demás cosas.

El arte hierático es por esencia conservador, y por eso al de los antiguos mexicanos pasaron figuras primitivas que habían perdido su prístino significado. En este simbolismo se tomó la parte por el todo, y las líneas convencionales, la aparente decoración geométrica de los tiempos primitivos, conservada por los sacerdotes con su significación, subsistió cuando por los progresos del arte ésta se había perdido para el vulgo, conociéndolo sólo los iniciados. Entonces esos simbolos indescifrables se amontonan en las representaciones de los dioses esculpidas y pintadas, en los edificios destinados a templos y en los utensilios consagrados al culto.

Al mismo tiempo, mediante una concepción más reflexiva, se van estilizando los motivos tomados de la naturaleza, y de allí brota un arte fundado más en la memoria y la reflexión que en la reproducción inmediata de aquélla, que se interpreta con el auxilio de elementos subjetivos y arbitrarios. En fin, por una visión subjetiva y casi mitológica del mundo, se llega a un arte ricamente provisto de símbolos atributos, con el que se pretende representar a la divinidad. Este naturalismo estilizado que encontramos en el México antiguo, no es sino la expresión de un arte jerárquico sacerdotal.[38]

---

[37] Pijoan, *Historia del Arte,* tomo I, p. 6.

[38] *La Civiltá Artística,* vol. IX, *Arte Messicana Antica* con una introduzione di Gualtiero Lehmann.

Veamos ahora la influencia inmediata y directa que en este arte pudieron tener las plantas sagradas, al producir visiones extraordinarias, abracadabrantes y monstruosas.

La casta sacerdotal, como hemos dicho, utilizaba las plantas sagradas para ponerse en comunicación directa con los dioses, y bajo la influencia de la embriaguez por ellas producida, creía hablar con ellos, mirarlos y aun interpretar lo porvenir. En el delirio producido por estas plantas intoxicantes, los sacerdotes o *shamanes* miraban cosas monstruosas, y espectáculos maravillosos de color que luego obligaban a los artistas a reproducir como obras de una inspiración divina.

De allí tomó nacimiento este arte absurdo y monstruoso en apariencia, esas combinaciones geométricas que recuerdan ya el arte infantil y primitivo, o las maravillosas tapicerías vistas durante la embriaguez peyótica. De allí esos colores crudos vivísimos, como los que miran los peyotizados. Este arte, confuso y monstruoso para los no iniciados en sus misterios, cuando se llega a comprender, es sin duda más profundo que el arte puramente objetivo, reproductor de la naturaleza; porque se da la mano con las concepciones más profundas de la ciencia y la religión, tal como en aquellos remotos tiempos se entendían, porque es un arte puramente metafísico.

Antes de continuar adelante, debemos advertir que lo monstruoso de las estatuas y bajo relieves de los antiguos mexicanos, de las figuras de los códices y de los dibujos usados en algunos utensilios, no es resultado, como lo pretenden algunos escritores europeos, de inhabilidad técnica, en la mayoría de los casos; sino que se trata de un arte anormal, producto de una imaginación calenturienta intoxicada por las plantas sagradas.

En efecto, insuperable es la ejecución material de esculturas como la Coatlicoe, la piedra del Sol, la lápida conmemorativa de la consagración del Templo Mayor, la cabeza de Coyolxauqui y el Caballero Aguila, que se conservan en el Museo Nacional de Historia y Arqueología de México, y así lo han reconocido verdaderas autoridades en la materia, como Augusto Rodin. Y más es de admirar la habilidad técnica de los artistas que ejecutaron dichas obras, si se tienen en cuenta tanto la dureza de las piedras en que se esculpieron, como la carencia de herramientas de acero para labrarlas. Igual habilidad técnica revelan los bajo relieves de Palenque, las máscaras de obsidiana y serpentina, las alhajas maravillosas de oro, los mosaicos de turquesa; pero en todos ellos se pone de manifiesto un arte bizarro y extravagante, que no es resultado en manera alguna de la simple contemplación y reproducción de la naturaleza.

En la Coatlicoe, por ejemplo, la concepción es monstruosa, pero cada parte del monstruo está esculpida cuidadosamente, en algunos lugares hasta con *amore.* Y si penetramos en su simbolismo ¡ cuán interesante y profundo lo encontraremos! El sacerdote o *shaman* que la concibió y los artistas que la ejecutaron, no olvidan que la tierra no sólo es la alimentadora del hombre; sino también la que recibe sus despojos, y por eso amontonan en su estatua los símbolos de la fecundidad y de la muerte.

Cosa semejante puede observarse en los códices. Dioses monstruosos en que se entremezclan y confunden plumas, ornatos de tela y de papel, máscaras, símbolos del agua, del aire, de la tierra y del fuego, fragmentos de animales, armas y divisas, todo pintado con colores vivísimos, sin medias tintas ni degradaciones. ¿Depende esto de inhabilidad técnica? Creemos que no; sino que es sólo el resultado de concepciones nacidas bajo embriaguez de las plantas sagradas.

En efecto, cuando se contemplan con ojo crítico las pinturas jeroglíficas ¡qué seguridad de trazo, con qué igualdad están extendidos los colores!; y la influencia del delirio producido por las plantas sagradas, que hemos hecho observar en las esculturas y pinturas precortesianas, es perceptible también en la arquitectura. Cuando se contempla atentamente la decoración suntuosísima, fantástica y policroma de los edificios de Mitla, de Chichén Itzá y de Centro América, cuando se perciben en ellos los mismos símbolos y motivos decorativos que en Teotihuacán, y se miran las líneas geométricas, las serpientes emplumadas y demás animales simbólicos, los guerreros, las máscaras fantásticas, &., entremezclarse y confundirse, no se puede menos que recordar las visiones que aparecen en el delirio provocado por la intoxicación de las plantas venenosas que hemos descrito.

En comprobación de nuestra tesis, véase una acuarela del Juego de Pelota de Chichén Itzá, según la reconstrucción hecha por el artista Miguel Angel Fernández, que residió mucho tiempo en la Península, y dió los colores a las piedras según los restos de pintura que apenas se perciben en las ruinas. Se advierte desde luego que tales colores son fantásticos y recuerdan los tapices maravillosos de que hablan los experimentadores del peyote. Los edificios, las estatuas y los dibujos jeroglíficos de que hemos hablado, podrían servir de ilustraciones para las alucinaciones de los peyotizados según las hemos visto descritas anteriormente, y ténganse en cuenta la diferente mentalidad de los europeos sujetos de experimentación y la de los indios sacerdotes o artistas de la antigüedad.

Debe advertirse que en los códices aparecen tanto más monstruosas las figuras al ojo europeo cuanto más conservan su aspecto primitivo; y que debido a que los misioneros católicos destruyeron sistemáticamente las pinturas indígenas, son rarísimas las auténticas; pues la mayoría de los códices existentes, son solamente copias hechas a raíz de la conquista, de originales más antiguos, en que los artistas han introducido ya algo de la técnica europea.

Quizá el códice de mayor antigüedad y autenticidad es el Códice Borgiano conservado el en Colegio de Propaganda Fide en Roma, que tiene todos los caracteres de pintura genuina anterior a la conquista.

Otros de los códices que más conservan la técnica precortesiana, son los dos, probablemente mixtecas, que se ven en el primer tomo de las *Antigüedades Mexicanas* de Lord Kingsborough, y los códices cronológicos del tomo 2/0; el Fejervary y el Ritual Vaticano, publicados en el tomo 3/0 de la misma obra; el Tonalamatl de Aubín, y el Códice de la Biblioteca de París. En todos ellos es fácil percibir a primera vista el aspecto monstruoso de los dioses, que más que figuras humanas son un verdadero amontonamiento de símbolos, siendo especialmente dignas de mencionarse, por esta circunstancia, las láminas del Códice Borgiano.

Todas ellas están pintadas con colores crudos y vivisimos, y en todas hay profusión de ornatos de secreta significación.

El simbolismo del arte indígena nuestro país, casi en nada se asemeja al del arte greco-romano, aun en los casos en que éste se halla influído por ideas religiosas orientales y egipcias; pues en el últimamente citado, el símbolo se obtiene por la acumulación, repetición o adaptación de miembros u objetos, alas, animales, cuernos o pechos, tomados siempre del natural, reproducidos tales cual son, casi siempre sin estilizar, de tal suerte que los monstruos no resultan sino de la repetición de las cosas o de la unión de otras que se encuentran separadas en la naturaleza; pero casi nunca de la unión de formas convencionales. Así vemos que en la Diana de Éfeso y el Júpiter Amón, si se separan los símbolos, cada teta, cada animal, los cuernos o las alas, forman de por sí un todo copiado del natural, lo que no pasa siempre en las pinturas antiguas mexicanas.

Tomemos para aplicación de nuestra teoría, de que estas pinturas se ejecutaron bajo la influencia del delirio causado por las plantas sagradas, el Códice Borgiano, y veremos que *cada detalle reviste una importancia extraordinaria* y que los rostros de los dioses, cuando no están cubiertos con mácaras, *tienen rasgos acentuados como los de los actores,* como ocurre en la intoxicación causada por la mezcalina, según antes hemos dicho. En la mayoría de las láminas de dicho códice, se perciben esos *tubos luminosos, rodeados de bolas rojas y verdes, las figuras grotescas de colores vivísimos, las curvas fantásticas, los ricos arabescos, semejantes a tapicerías y las más sencillas figuras de la geometría plana,* de que nos hablan las experiencias hechas por Prentiss y Morgan.

Ni faltan los *discos rojos, flameantes como soles, llevando las cuatro prolongaciones espinosas, dispuestas en rayos,* a que se refiere el sujeto de experimentación de que nos habla Briau. En comprobación de nuestro dicho, véanse: las láminas 9 y 13 del Códice en la obra de Lord Kingsborough, en que puede observarse una semejanza de dichos discos; la lámina 22, que representa a Mixcoatl, o sea dios del año; la lámina 29, en que se mira un pájaro fantástico pintado de azul, amarillo, rojo y verde, que cualquiera diría hecho en mosaico de piedras preciosas, y las figuras 51 y 69, que parecen tapicerías concebidas bajo el delirio peyótico. Ejemplos análogos podrían encontrarse en las láminas 1, 3, 4, 7, 8, 10, 11, 39, 40 y 59, del mismo códice, donde se ven figuras de dioses y animales, de los usados por los hechiceros en sus transformaciones, como: águilas, serpientes, jaguares &; rojos, verdes, amarillos, azules y de otros colores absurdos que no se encuentran en la naturaleza.[39]

Semejantes observaciones pueden hacerse en las figuras 1, 2 y 44 del Códice Fejervary; en las 21, 91, 92 y 93 a 96, del Códice Vaticano; en las de las páginas 3, 6, 12, 17, 24 a 26 y 28, del Telleriano Remensis, y en gran número de las del de Oxford y del Bodleiano de Oxford, del Conspiano de Bolonia, y las 1 a 5 y 37 del Imperial de Vienna.[40]

El uso de las plantas intoxicantes que se miraban como sagradas, tenía por objeto producir el delirio como medio de poner el alma en unión hipostática con la divinidad. Toda planta que producía este resultado, parece que se consideraba buena para el caso. Tan es esto así, que Lumholtz, hablando de los indios tepecanos, dice: ''Usan también el sagrado jículi y lo llaman con el mismo nombre. Hasta hacía tres años, iban ellos mismos en busca de dicha planta, pero ya entonces la compraban a los huicholes, bien que algunas veces la sustituyen con una especie de cáñamo llamado *mariguana* o *rosa maria* (Cannabis sativa), terrible narcótico cuyas hojas acostumbran fumar en México los criminales y otra gente depravada.''[41]

---

[39] *Antiquities of Mexico: comprising Facsimiles of Ancient Mexican Paintings and Hieroglyphics,* London, 1830–48, tomo III.

[40] *Id.*, tomos I, II y III.

El conocimiento de las propiedades de tales plantas formaba parte de la ciencia oculta de los *nahuales,* hechiceros y sarcerdotes que tenían por patrono a Quetzalcoatl, y que formaban una sociedad secreta, una especie de masonería. El conocimiento del calendario primitivo y la masonería del nahualismo, estaban íntimamente ligados, y se combinaban de tal suerte que donde existía el uno había la otra, como lo ha demostrado Brinton. Esto explica las semejanzas que existen en el simbolismo empleado en edificios religiosos, estatuas y códices, aun entre pueblos de distinto idioma y tan lejanos como los teotihuacanos y los de la América Central.[42]

Con verdadera desconfianza hemos escrito el anterior trabajo por tratarse de una materia poco conocida, y sólo desearíamos que el presente Congreso de Americanistas, recomendara el estudio científico de las plantas sagradas que en él se han mencionado y su influencia en el arte americano.

Mexico, D. F.

---

[41] Lumholtz, *op. cit.,* p. 123.

[42] Pueden percibirse las semejanzas de las construcciones de Teotihuacán y de Chichén Itzá, tanto en sus símbolos como en su policromía, en las estampas que acompañan el artículo: The Art of the Maya por Frank F. Nunker, publicado en *Art and Archaelogy* de Enero de 1927, comparándolas con las de la obra *La Población del Valle de Teotihuacán,* antes citada.

AN AZTEC ACCOUNT OF THE PERIOD OF THE TOLTEC DECLINE

By Benjamin L. Whorf

IN the Peabody Museum of Harvard University is a photographic reproduction of one page of an old Mexican manuscript. In the upper half of the page is a picture comprising various human figures and hieroglyphs; in the lower half is a text written in a small crowded and difficultly legible hand halfway between cursive and print, in the Spanish letter of the sixteenth century and in the Aztec language. This writing has never, until now, been interpreted. The page is known as Plate 55 of the collection of E. Eugene Goupil, and its original is in Paris, where it is said to form part of a manuscript book. The book is evidently a historical work dealing with the Toltec, the Nahuan people who built the pyramids and temples of Teotihuacan, penetrated Yucatan, conquered and partly built the Mayan city of Chichen Itzá, and fostered and transmitted, if they did not originate, the later Mexican civilization.

This Aztec text may have been written by some Indian chronicler, perhaps to explain some still older pictorial and hieroglyphic codex. Through the efforts of Doctor H. J. Spinden I believe we are due to have in this country photographic copies not merely of this one page but of the whole of this hitherto untapped historical source. My own studies in Nahuatl linguistics had been in considerable part from Aztec texts, and so, at the suggestion of Doctor Spinden, I undertook the translation of this page. It was almost as much a question of deciphering the crabbed, oddly spelled, abbreviated, and unpunctuated writing as it was a linguistic problem; though the linguistic side was not without its difficulties, since forms of uncommon occurrence in the Aztec of the grammars and dictionaries seemed to abound, and of these the most puzzling was the mysterious verb *nonoaltia,* unknown to the dictionaries, on the meaning of which indeed hangs the whole historical significance of what I am about to relate. Yet, by use of linguistic methods, though it took time, these elusive meanings were at last tracked down, and even *nonoaltia* was forced to yield up its secret in a fashion that will be outlined presently. Four versions of the text were prepared: first, a copy preserving strictly the spelling and spacing of the original; second, a transliteration[1] into regularized spelling, making full use of punctuation, hyphenation, and spacing; third, an interlinear translation; and fourth, a finished translation.

Aztec Text and Interlinear Translation

Ica	1.	tec patl	xiuitl.	Inicacico	ỹtollan
Ica	*1.*	*tecpatl*	*xiwitl.*	*Inic azi-co*	*in Tollan*
With	1.	flint	year.	Therewith came to reach	Tollan

---

[1] In the spelling used in the transliteration, *c* always has the value of *k, qu* always that of *kw, z* that of the sibilant usually rendered *z, ç,* and *c*; otherwise the usual Spanish spelling of Aztec is followed, except for use of *w* and *u* in place of *hu.*

ynompavallevaque	ỹcoluacatepec
in ompa walleuace	*in Colwaca-tepec,*
those who thence came out	the Colhuaca mountains.

ynitoltecachichimeca	ynicxicovatl	ỹquetzalteueyac
in i – Tolteca-Chichimeca	*in Icxicoatl,*	*in Cetzalteueyac,*
thereof the Toltecan Chichimecs (were)	Icxicoatl,	Quetzaltehueyac,

ỹtezcavitzill	ỹtololovitzin	yvan	ynonovalcachichimeca
in Tezcauitzil,	*in Tololowitzin,*	*iwan*	*i – Nonoalca-Chichimeca*
Tezcahuitzil,	Tololohuitzin,	and	thereof Nonoalcan Chichimecs

ỹxelhua	ynvevetzin	ỹquauhtzin	ỹcitlalmacuetzin
in Xelwa,	*in Wewetzin,*	*in Quauhtzin,*	*in Zitlalmaquetzin;*
Xelhua,	Huehuetzin,	Quauhtzin,	Citlalmacuetzin;

ce	xiuhtica	ynocpacticatca	yni	macica
ze –	*xiuhti – ca*	*in o–cpacti–catca*	*inim*	*azica*
one –	year – ly	who over – were	these who	had arrived

ỹtoltecachichimeca.
in Tolteca–Chichimeca.
Toltecan Chichimecs.

2. Calli xiuitl.	ynipã		yyamonetecheua
2. Calli xiwitl.	*in ipan in*	*ya*	*mo-netecheua,*
2. House year.	Therein	they go to	rise against one another,

	ỹyamochallania		yyaquineyxnamictia
in ya	*mo-chalania,*	*in ya*	*a – cin – neixnamict–ia*
they go to	conflict,	as goes	absence their strife causes

ynitoca memac.	ça	quimoteliq̃	ỹtolteca
in i – toca Memac.	*Za*	*ci–mo–te–yelice*	*in Tolteca*
who his name Memac.	Alone	they caused him to be	to the Toltec (s)

ypiltzintli.	auh ni mã	conmaniliq̃	ycvomtin (?)
in piltzintli.	*Auh niman*	*c– on – manilice*	*yevantin,*
the prince.	And then	out – spread	they,

quizcalltique	quivapauhq̃	ỹtolteca.	auh tlacaço	yveyo
c–izcaltice,	*ci–wapauhce*	*in Tolteca.*	*Auh tlacazo*	*i – weyo*
bore offspring,	established	Toltecs.	And indeed	his greatness

Tezcatlepoca	çayo	ytlachichival	ynicxinizque
Tezcatlepoca	*zayo*	*i – tla–chichiwal*	*inic xinizce*
Tezcatlipoca ('s),	solely	his work;	thereby should be ruined,

inic	mayavaz (?)	yntoltecachichimeca	ivan
inic	*moyauaz*	*in Tolteca–Chichimeca*	*iwan*
thereby should	be scattered	the Toltecan Chichimecs	and

ynonovalcachichimeca		yniimixnamiq̃	ỹtolteca
in Nonoalca–Chichimeca,	*in*	*i(n)im m–ixnamicce*	*in Tolteca*
the Nonoalcan Chichimecs,	that	these fought together;	the Toltecs,

ynimacica y nonovalca. Auh iniquac yatelpochtli
inim azica in Nonoalca. Auh iniquac ya telpochtli
these who had arrived, and the Nonoalca. And when went youth

ỹmemac ni mã yaquinavatia ynic ychan tlapiazq̃
in Memac, niman ya cin – nauatia inic i – chan tlapiazce
to Memac, then goes he he advises whereby his (their) home they shall keep

ynonovalca yn memac. auh ni mã quilhuiq̃ y nonovalca
in Nonoalca in Memac. Auh niman c–ilwice in Nonoalca
the Nonoalcan(s), does Memac. And then said to him the Nonoalcans

mayvi nopiltzin ma tic iluivacan ỹtlein
"ma iwi no–piltzin, ma ti–c– ilw– iwacan in tlein
"let send out my lord, let us back send whatever

tocõmonequiltia. Niman yaye ychan vallapia.
to–c–on–mo–neciltia." Niman ya ye i–chan wallapia.
thou dost wish." Then went, so their home retain.

ynonovaltia y vemac.
Ye (or, i) nonoaltia. (nencualtia) in Wemac.
He is the same as Huemac.

auh ni mã y quimitlaniltia çova quimilhuia
Auh niman ye cim–itlaniltia zoa cim–ilwia
And then thus plead to them women; they say to

ynonovalcãa nechmomaquilizq̃ cina namechnonavatiltia
in Nonoalca "Ma nech–mo–macilizce zina, n–amech–no–nauatiltia."
the Nonoalcans, "Will one ever give me maize, I you entreat."

yevatl ynaviztetl ynic tzĩtamalpatlavac oquilhuiq̃
Yeuatl in Nauiztetl inic Tzintamal–patlauac o–c–ilwice
He Nahuiztetl Tzintamalpatlahuac, they said to him,
(perhaps a nickname – "broad in the seat")

yn nonovalca mayvi ma octictemocã
in Nonoalca, "Ma iwi, ma oc ti–c–temocan
the Nonoalcans, "Let him go forth, let afterward us seek of him

campa ticanativi ynaviztetl ynictzin tamalpatlavac
campa ti–c – ana – tiwe in Nauiztetl inic Tzintamal–patlauac."
where we to get it may go Nahuiztetl Tzintamalpatlahuac."

auh ni mã quimonanaco yncina navime
Auh niman cim – on – ana – co in zina nauime
And then them at length to get he came maize–fours

ynaocavilli ynic veveỹ amoyxquich yni tlato
in aoc cauilli inic wewein. "Amo ixcich in ni–tlato
ones no longer retained because old. "Not all that I spoke

ma chivaloquimilhui yn nonovalca amoyequich
ma chiwalo," cim–ilwi in Nonoalca, "amo ixcich
may be done," he said to them, the Nonoalcans, "not all

ynic nequi amo aci y naviztetl
inic neci; amo azi in Nauiztetl
with (like) what one wishes; not attains Nahuiztetl

ynin	tzintamall	ceniavey	ynic	nequi
inic	*Tzintamal*	*zenca wei*	*inic*	*neci.''*
	Tzintamal	very big	like what	one wishes.''

ni mã cenia	oquallantavaq̃		ỹ nonovalca.
Niman benca	*o – qualant*	– *euace*	*in Nonoalca.*
Then greatly	anger	they uplifted,	the Nonoalcans.

TRANSLATION

In the year One Flint those who had come forth from the Colhuacan Mountains began to arrive in Tollan, and the Toltecan Chichimecs among them were Icxicoatl, Quetzaltehueyac, Tezcahuitzil, and Tololohuitzin; while the Nonoalcan Chichimecs were Xelhua, Huehuetzin, Quauhtzin, and Citlalmacuetzin. That is, those were the ones who held authority for one-year periods over these new arrivals, they being Toltecan Chichimecs.

Next is the year Two House. Now is the beginning of contention and conflict, strife having been averted by one who was called Memac, whom the Toltecs had appointed sole monarch. But then they spread abroad, bearing offspring and establishing Toltecan peoples; and indeed by the power of Tezcatlipoca, and by his doing alone, the Toltecan and Nonoalcan Chichimecs were to fall and be swept away, through fighting between Toltecans, Nonoalcans and these new arrivals.

Yet when the Nonoalcan young men went to Memac, Memac advised them how their home might be saved; and the Nonoalcans then said to him, ''Let my lord but convey it, we will render back whatever is his will,'' then departed, and so they retained their home. He is the same one as Huemac.

And then the women made petition among the Nonoalcans, each saying, ''I entreat you, will no one give me corn?'' The Nonoalcans said to one Nahuiztetl surnamed Tzintamalpatlahuac (''broad in the seat'')—''Let Nahuiztetl Tzintamalpatlahuac be sent, and we will inquire of him where we may go to get it.'' And then it came about that he obtained ears of maize in bunches of four that had not been kept because so old.

''I cannot do all that I promised,'' said he to the Nonoalcans, ''nor all that might be wished. Nahuiztetl Tzintamal cannot obtain such very big ears as might be wished''—and then the Nonoalcans were kindled to great anger.

Here the page ends. Future translation of the Paris manuscript should unfold the whole story of which this is a fragment. In the meantime let us see what may be gleaned from the fragment. With what time and what events are we here dealing? The final episode of Nahuiztetl and the corn-shortage among the Nonoalcans is perhaps a comparatively unimportant local incident. But the rest will bear careful reviewing.

1. The first thing that we behold through this scrap of manuscript is that people are emigrating from the Colhuaca Mountains and arriving in Tollan, the land of the Toltec. And Tollan, be it said, seems to be spoken of both in this account and in other old texts as though it were not merely the city Tula but an extensive domain.

2. These arrivals are of the race of Chichimec, from which the Toltec also are supposed to have sprung, and are of two kinds, one called Toltecan, or allied to the Toltec and one called Nonoalcan, which perhaps means speaking a different dialect and allied to the people called Nonoalcan, who may themselves have been closely related to the Toltec, or a branch of them.

3. Again, all these arrivals, or all their leaders, are spoken of as Toltecan Chichimec.

4. Their leaders hold office for one-year periods.

5. Up to the year Two House, Memac averts civil strife.

6. But in that year the Toltec are dispersing.

7. The Toltecan and Nonoalcan branches of the Chichimec people are to be destroyed through the power of the god Tezcatlipoca and the agency of dissension and strife.

8. Except that some of the Nonoalcan, whose youth have sought the advice of Memac and have promised him obedience, are to retain possession of their country.

9. Memac is the same one as Huemac.

And who is this Huemac? He is, as we may learn elsewhere, an important ruler of the Toltec at the period of this people's decline in the twelfth century of our era. By some students of the subject he is thought to be Quetzalcoatl under another name. The source that I investigated for more information about Huemac and his times makes him the last king of the Toltec. This source is the Aztec chronicle known as the *Annals of Quauhtitlan.* It is an old manuscript that was once in the possession of a Jesuit College in Mexico and then passed through various hands until it was rescued and placed in the National Museum of Mexico. In 1886 the text of this manuscript was published, accompanied by two variant translations into Spanish. But on examination of this text and these translations it became evident that the meaning of the Aztec had sometimes not been very clear to the translators, and that they had often contented themselves with general paraphrases in which the historical happenings were sometimes lost. The translations often disagreed, and it became necessary to set them aside and make a several months' study of the Aztec text, as a result of which there emerged a new and I believe fairly accurate translation of the portions of the *Annals* relating to Quetzalcoatl and Huemac, of which the portion about Huemac with its text and notes should be published in the near future.

From these *Annals of Quauhtitlan* we learn that Huemac was made king of Tollan in a year Nine Rabbit. Doctor Spinden has made a study of the year-count in the *Annals* and according to some notes which he left with me this year Nine Rabbit is 1150 A. D.[2] The *Annals* say that very much has been written about Huemac in other history books. Huemac was a great mainstay of the Quetzalcoatl religion. This at the beginning of his reign seemed to be the dominant cult, but there was starting up a revival of an older worship of ''demons'', evidently the later Aztec gods, chief among whom was Tezcatlipoca. The demon worship was attended with human sacrifice and other cruelties of the later Aztec sort, and resembled the practices of the ferocious barbarians who were beginning to press in upon the Toltec domains. Huemac stoutly resisted the evil tendencies; he set up the pure Quetzalcoatl cult in the temples, and required his priests to conform thereto or be replaced. His strictness in this respect helped to bring on the terrible war with the barbarians in which the Toltec debased themselves to the barbarous level of their foes, capturing them for human sacrifice and introducing some of the most horrible of the later Aztec sacrificial rites. Huemac fights a long but a losing fight and toward the end it would seem that his own people begin to emigrate and desert him right and left. The story in short is a bitterly tragic one, for its theme, like that of Tennyson's rendering of the legend of King Arthur, is the failure of a great idealism.

---

[2] Or possibly one fifty-two year cycle later, 1202 A. D.

But to return to our Toltec manuscript. We have noted that it records two successive years, One Flint and Two House. The reign of Huemac in the *Annals* is longer than fifty-two years, and years One Flint and Two House occur in it twice. Their first occurrence is in the earlier part of his reign and no events are recorded in them. They recur at almost the very end of his reign, when Huemac, it is plain to see, is a broken old man. A great deal is recorded under *this* One Flint year and so close is the parallel with our Toltec manuscript that it would seem to be the very same One Flint year that the latter records. If so, then by Spinden's reckoning, our fragment of manuscript tells about what was happening in Tollan in 1220 A. D.[3] Let us examine the correspondence between the manuscript and the *Annals of Quauhtitlan.*

Toltec History Manuscript.	*Annals of Quauhtitlan.*
In year *One Flint,* people who have emigrated from the *Colhuaca* Mountains are arriving in Tollan.	The same period is a time of migrating peoples. Five years before *One Flint* the barbarous Ixcuinas entered Tollan; one year before, the barbarian war began; and in *One Flint* the Toltec themselves are beginning to emigrate and the *Colhuacans* are following everywhere.
Memac is sole monarch of the Toltec.	*Huemac* is king of the Toltec and is said to be very famous.
Up to the year *Two House, Memac* has prevented civil strife among the Toltec.	*Huemac* has been working for unity and cohesion. In the year *One Flint,* on an occasion of assembling his leaders for warfare with the barbarians, he makes a speech, urging them to be calm and not to be false to the cause of Tollan.
But, in *Two House,* fighting among the Toltec and Nonoalcans is mentioned.	Still, in *One Flint* the Toltec evidently do begin to desert Huemac's standard. Huemac speaks of losing them and being brought to shame thereby. He is particularly grieved over the defection of the cities Oztotempan and Atzompan.
In *Two House* the Toltec are about to spread out and to establish Toltecan peoples.	In *One Flint* begins a general emigration of the Toltec that lasts seven years. They leave their homeland and settle in various cities all over the Anahuac country.
In *Two House* it is recorded that the Toltecan and Nonoalcan branches of the Chichimec race are about to fall and be dispersed.	Quoting from my translation of the Annals: "*One Flint,* in which the Toltec nation was going to pieces." Seven years later the Toltec nation has ceased to exist.
The ruin of the Toltec is the work of *Tezcatlipoca.*	Many years before this time, *Tezcatlipoca,* on hearing of Huemac's religious reforms, had come from Tzapotlan on purpose to work treachery toward Huemac.[4]

---

[3] Or it may be one fifty-two year cycle earlier, or 1168 A. D.

[4] The material in this column is taken from the author's paper, *The Reign of Huemac,* containing his translation of this part of the *Quauhtitlan Annals.* This paper was finished so recently that I am not yet able to announce its place of publication.

So there seems little doubt that we are dealing with the same series of events and that *Memac* is the same person as *Huemac*. Moreover it will be recalled that the text, as I translated it, said so—"He is the same as Huemac. ' I had so translated the sentence and communicated the translation to Doctor Spinden some time before I had seen the *Annals of Quauhtitlan* or knew anything about the correspondences I have just pointed out. But this sentence is a linguistic problem. Its sense is all locked up in the mysterious word *nonoaltia* that I have already referred to as being unknown to the dictionaries. To decipher this word and so reveal the meaning of this key sentence is the chief linguistic problem of the whole translation. The sentence is: *"y nonovaltia y vemac"*.

The name Huemac is spelled in the older Aztec style, with a *v,* as is also the name Huehuetzin on the same page, and is clear and distinct. The name *"memac",* which occurs three times on the page is also clear; its initial letter is decidedly *m,* while the initial of this name is as decidedly not *m* but *v.* The letter *y* before *nonoaltia*[5] is probably the pronoun *ye* or *i,* he.

The ending *–ltia* is exclusively a termination of verbs, and shows that our word is a verb. The resemblance to the gentile and place names *Nonoalca* and *Nonoalco,* the former of such frequent mention in our manuscript, is striking, but does not mean that the verb is derived from these names. Aztec proper names are themselves derived from verbs and stems, and *nonoaltia* would probably be derived from the stem underlying *Nonoalca* and not from that word itself. Strange to say, we do not find in the ordinary Aztec dialect of Nahuatl any stems of the form *nonoa* or of the corresponding unreduplicated form *noa,* although in a language constructed as is Nahuatl such forms as *nonoaltia* and *Nonoalca must* have come into existence through the intermediation of such a stem.

In my previous work on the stem and root structure of Nahuatl I had isolated a common root or element with a variable vowel, *ne-ni-neu-no.* This root means self, same, alike, equal, also. In the ordinary Aztec dialect the form *no* is uncommon except in combination with other roots and stems[6] and isolated meaning *also.* In the forms where this single root produces verb stems it has the form *neu* instead of *no* and in reduplication *neneu* instead of *nono.* This is why we find no stems *noa* or *nonoa* in Aztec. These stems in Aztec have the forms *neui* and *neneui,* and the verbs derived from them mean, be the same, equal, or alike. But a slightly different dialect might show the cognate *noa*-form. Stems ending in *-i* make applicative verbs in *-i-lia,* while stems in *-a* make them usually in *-a-ltia.* Hence dialectal *nonoaltia* is to dialectal stem *noa* as Aztec *neneuilia* is to Aztec stem *neui.* Aztec *neneuilia* means, be equal to, be the same as, and *nonoaltia* should have approximately the same meaning. Hence my translation: *"He is the same as Huemac."*

It will be seen that the sense here when applied to a word is that of "has the same meaning" and so could mean "is the equivalent in another dialect".

---

[5] The word is *nonoaltia;* it cannot be split into parts such as *in on oaltia* that are intelligible. The old *v* (*w*) between *o* and *a* may well be omitted in modern spelling, *e.g., coatl,* snake, for the older *covatl.*

[6] As in *e.g. onoc, onoya* (*on-NO-c on-NO-ya*), where NO means *all alike, uniform, level, flat,* and being combined with the particle *on* meaning "on," "upon," gives this verb *onoc, onoya,* meaning *to lie,* i.e., "be flat upon something."

Now we have a documentary statement that the place-name Nonoalco means something like ''border-line between two dialects'', or possibly ''place where our language returns''.[7] Finally, I have recently found an old Nahuatl text in which the Aztec stem *neui* appears as *nowi*. It is an ancient song called the Song of Huitzilopochtli, recorded by Sahagun and published by Seler.[8] In it occurs a verb *nowiwia*, which Sahagun's Aztec note explains by the more common *neneuilia*, ''be the same, or be like''. And so we have a considerable amount of evidence for the view that the Memac of our manuscript is the same as Huemac, and hence, according to some students, the same as Quetzalcoatl. It now remains for us to resurrect the complete original manuscript, translate it, and see what more it will tell us.

WETHERSFIELD, CONNECTICUT.

---

[7] I regret inability to recall the name of this source; it is in Aztec and possibly by Sahagun. The verb therein used to describe what the language does at Nonoalco is *cuepa* (in my spelling *quepa*), turn around or back, which may mean *change*, but more usually means *return*.

[8] In article Die Religiösen Gesänge der Alten Mexikaner to be found in Vol. 2, of *Abhandlungen zur Amerikanische Sprach-und Altertumskunde.* The verb appears in the song-text as *nowiwiwia* (*nohvihvihvia*), in which one ''*wi*'' is undoubtedly a dittogram; Sahagun notes it is *nowiwi* (*novivi*) and equates it to *neneuilia.*

UN CODICE EN OTOMÍ

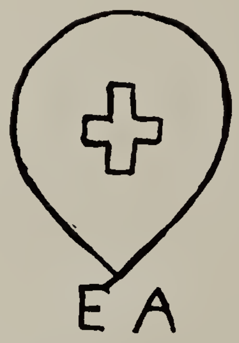
POR ALFONSO CASO

EL señor C. C. James, de México hace algún tiempo me mostró un manuscrito que había adquirido, y que aparentemente se refería a la historia antigua de México, aunque estaba escrito en una lengua indígena que no era el Nahuatl.

El propietario del manuscrito me permitió amablemente que sacara una copia completa de él y que lo estudiara con todo detenimiento. Aunque todavía no puedo dar una traducción, me ha parecido interesante poner en conocimiento de los americanistas, que celebran ahora su XXIII° Congreso, algunos datos sobre el Códice Otomí; pues a la rareza de ser un documento escrito en este idioma, reune la de contener pictografías y, sobre todo, mostrarnos el calendario otomí, que nos era totalmente desconocido y que está de acuerdo con el calendario mexicano, según veremos.[1a]

El manuscrito, empastado en pergamino, forma un libro de 29 centimetros de largo por 21 centimetros de ancho y consta actualmente de 34 fojas; pero está incompleto, pues faltan algunas fojas en medio y probablemente otras al final. Carece de portada y en general está bastante bien conservado y la letra es clara, pero hay tres fojas reducidas a fragmentos y otras bastante maltratadas, especialmente en los bordes.

Está escrito en papel europeo del siglo XVII, con la siguiente filigrana o marca de agua:



Las primeras diez páginas contienen los anales de un convento, principian en 1539 (véase Lám. I) y llegan hasta 1618, y en una hoja fragmentaria, hasta 1632, por lo que es de presumirse que el manuscrito haya sido hecho en este año o poco después; en todo caso—en la primera mitad del siglo XVII, pues la letra es de esta época.

En la línea final de las que sirven de título, en la primera página del manuscrito, y en otros muchos lugares, encontramos estas palabras:

" . . . *nugua s^t. matheo antamatzittzi*"

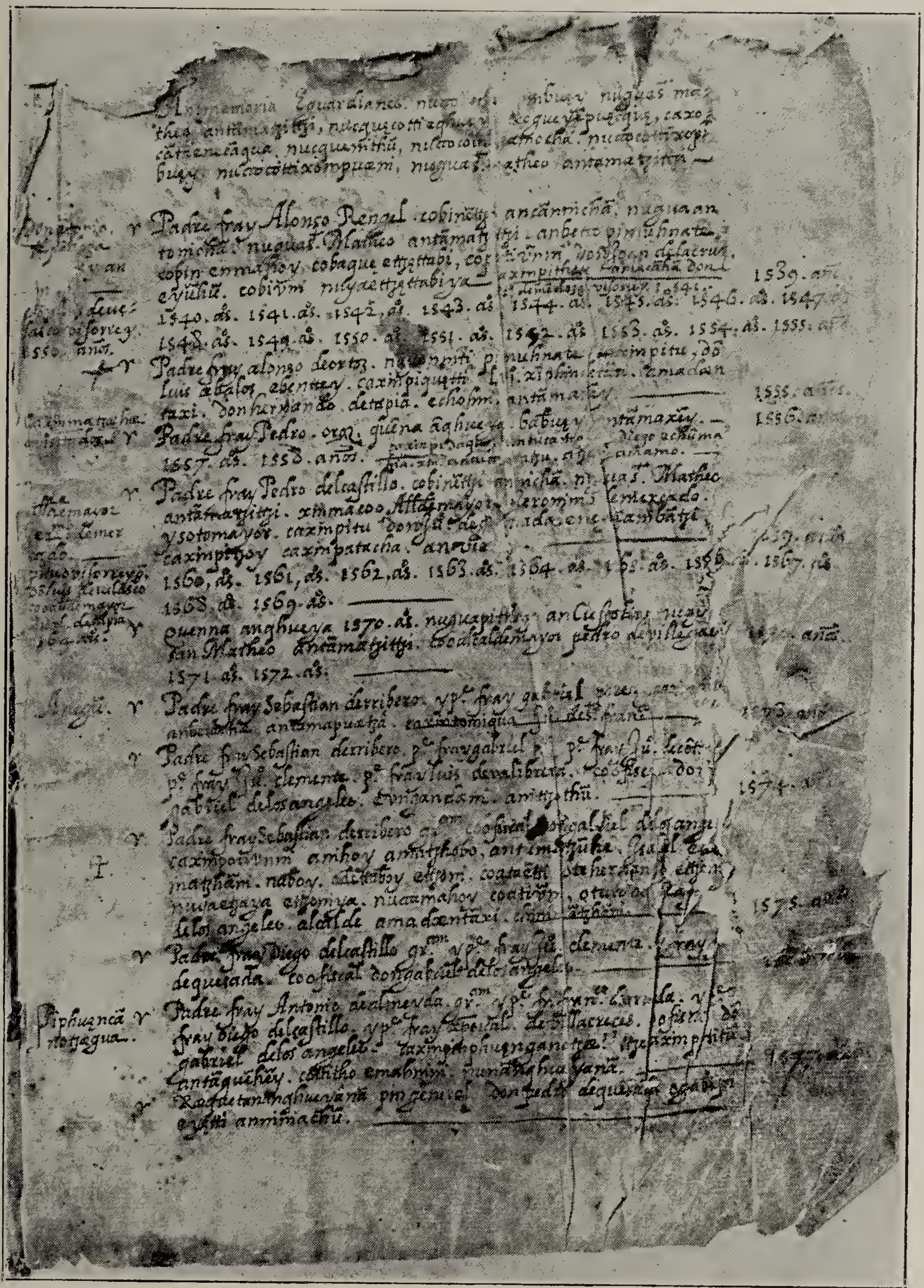
que quieren decir:

" . . . aquí en Sn. Mateo Antamatzittzi."

Ahora bien, en el *Arte de la Lengua Othomi* por Fr. Pedro de Cárceres, religioso

---

[1a] Actualmente el Códice Otomí esta en el Museo National de Mexico.



PRIMERA PÁGINA DEL CÓDICE OTOMÍ

franciscano del siglo XVI[1] encontramos que: "*ayongŭ ăntămăttzi*" quiere decir "Vezinos de *Ueychiapa,*" por lo que concluimos que el nombre de Hueychipa[2] en el Otomí del siglo XVI era *Ăntămăttzi* o *Ăntămătzittzi.*

También concuerda con este dato la crónica que García Icazbalceta llamó Códice Franciscano[3] pues dice:—

> "Ocho leguas más adelante de *Xilotepec* y casi veinte de México, está el tercero monesterio que tiene la dicha provincia de *Xilotepec,* y llámase Sant Mateo, y el pueblo "*Gueychiapa.*"

En consecuencia el Códice fué redactado en la primera mitad del siglo XVII en el convento franciscano de San Mateo de Hueychiapa, o en Otomí: San Mateo Ăntămătzittzi.

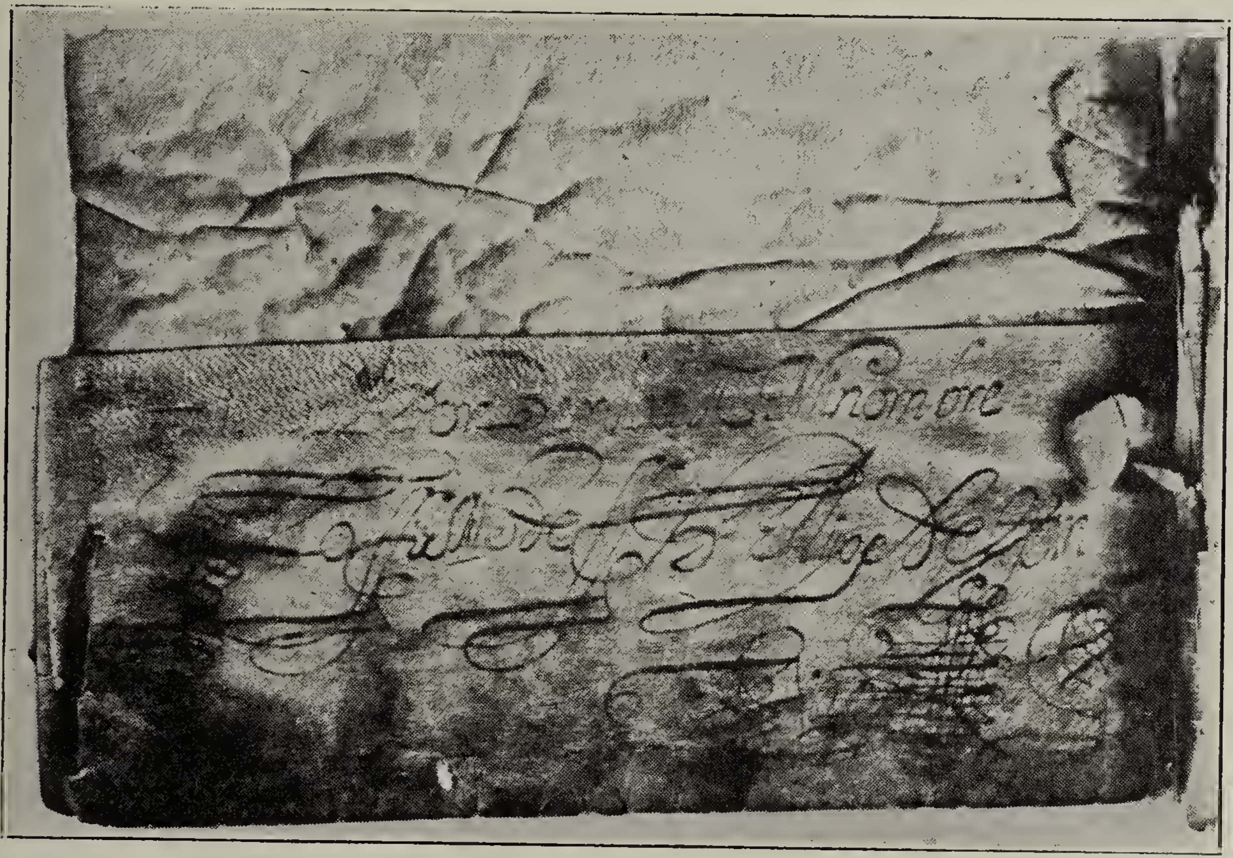


FIG. 1—VUELTA DE LA PASTA DE PERGAMINO DEL CÓDICE OTOMÍ, CON EL NOMBRE DEL AUTOR

En el Códice se emplea la misma ortografía que en la gramática de Cárceres, que fué probablemente hecha en esta región y por un franciscano.

En la Biblioteca Nacional de México, existe un extenso vocabulario manuscrito anónimo, que según parece, es del siglo XVII, y emplea la misma ortografía del Códice Otomí y del Arte de Cárceres.

El nombre del autor del manuscrito nos ha sido conservado, pues en la vuelta de la pasta de pergamino (Fig. 1), se lee:—

> "Ziendo Por Berdad de Minombre
> Lo ffirme de ff. Felipe de Santiago"

y hay además una rúbrica muy complicada.

---

[1] de Cárceres, Fr. Pedro, Arte de la Lengua Othomí, *Boletín del Instituto Bibliográfico Mexicano,* núm. 6, 1907, pág. 46.

[2] Hueychiapan es la actual Huichapan, en el Estado de Hidalgo.

[3] Icazbalceta, Joaquín García, Códice Franciscano, *Nueva Colección de documentos para la Historia de México,* tomo II, pág. 19.

Al hacer el estudio completo y la traducción del Códice, espero tener más detalles sobre este Fray Felipe de Santiago, autor del manuscrito, pero por algunos detalles me parece que era indio Otomí, y que escribía en presencia de antiguas pinturas y de los libros de registros de su convento.

En el manuscrito me ha parecido ver dos letras y dos tintas diferentes, aunque casi la totalidad se debe a una sola mano que empleó una tinta que actualmente tiene un color café oscuro.

Algunas correcciones, notas y el delineado de los dibujos se hicieron empleando una tinta más negra.

Los anales del convento de San Mateo ocupan las cinco primeras páginas del manuscrito, luego viene una página en blanco y después una foja en la que aparecen 12 jeroglíficos de pueblos y sus nombres en Otomí.

Los nombres de los pueblos que están en la parte superior de la foja por el anverso y el reverso, han desaparecido, pero el primer jeroglífico del anverso, es indudablemente Xilotepec; dos *xilotes* o mazorcas tiernas de maíz sobre un cerro. Los otros nombres con algunas traducciones que he podido encontrar, son los siguientes·

Amamehe
Acaxoetza
Antomehe
Atăxittzŏ
Anttzccamaxoey.

Ameyalco
Cuauhtitlán?

Antonichă
Amatzitzzi
————bo
Andehe
Antomeni

Hueychiapa
Atenco.

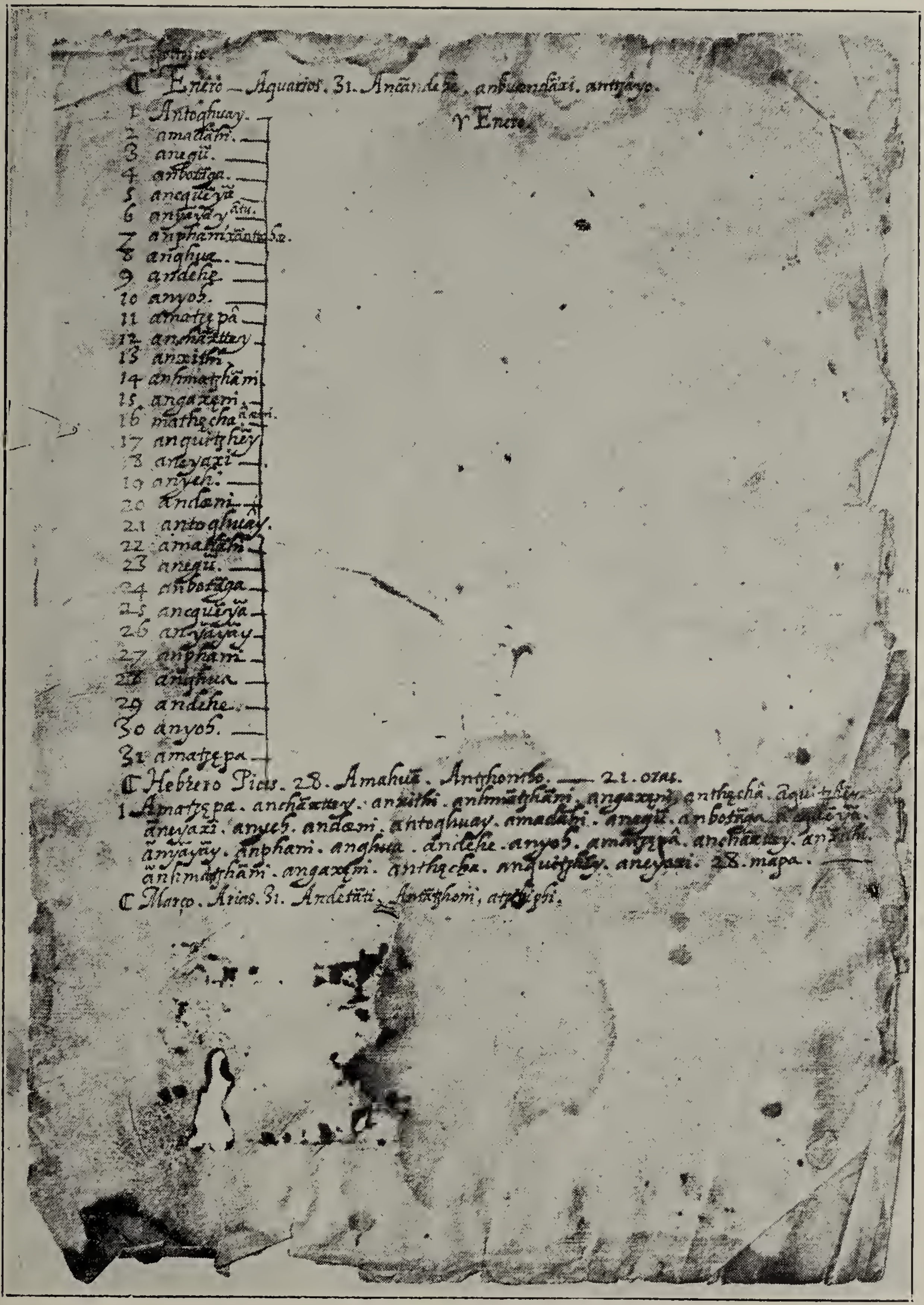
Después de estos jeroglíficos viene una foja fragmentaria en la que se continúan los anales del convento por los años de 1629 a 1632, y después, las dos páginas más importante del Códice, pues contienen el calendario Otomí (Lám. II y III).

Según la página 11, los días en el calendario Otomí son los que van en la siguiente lista. He añadido algunas traducciones que he podido hacer, valiéndome de los vocabularios impresos, y de otro que recojí en Huichapan. Pongo en la primera columna los días en Otomí según el manuscrito; en la 2a. columna la palabra otomí semejante que he encontrado en los vocabularios y en la 3a. columna su traducción. La 4a. y 5a. columnas están formadas por el calendario mexicano, para que se pueda ver la concordancia.

CÓDICE OTOMÍ	VOCABULARIOS	CASTELLANO	MEXICANO	CASTELLANO
1. *Antoqhuay*[4]	*Hûâ* ?	Pescado	*Cipactli*	Cocodrilo
2. *Amadăhi*	*Ndâhi, dají*	Aire	*Ehecatl*	Aire
3. *Anegŭ*	*Na ngû, rangú*	Casa	*Calli*	Casa
4. *Anbotăga*	*Botga*	Lagartija prieta	*Cuetzpallin*	Lagartija
5. *Ancquĕyă*	*Queñá*	Culebra	*Coatl*	Culebra
6. *Anyăyăy âtu*	*Anchăyăy âtu*	Persona muerta	*Miquiztli*	Muerte
7. *Anphanixantoehoe*	*Hocphaní*	Venado	*Mazatl*	Venado
8. *Anqhua*	*Qhua, juá*	Conejo	*Tochtli*	Conejo
9. *Andehe*	*Dehe*	Agua	*Atl*	Agua
10. *Anyoh*	*Yoo*	Perro	*Ytzcuintli*	Perro
11. *Amatzepâ*	*Tzihpá*	Mono	*Ozomatli*	Mono
12. *Anchăxttey*	*Ttey*	Zacate	*Malinalli*	Hierba
13. *Anxithi*	*Xiti*	Carrizo (Caña)	*Acatl*	Caña
14. *Anhmatzhăni*	*Zahté* ?	Fiera	*Ocelotl*	Tigre

---

[4] *An* según Cárceres, es una partícula que se antepone a los sustantivos en número singular.

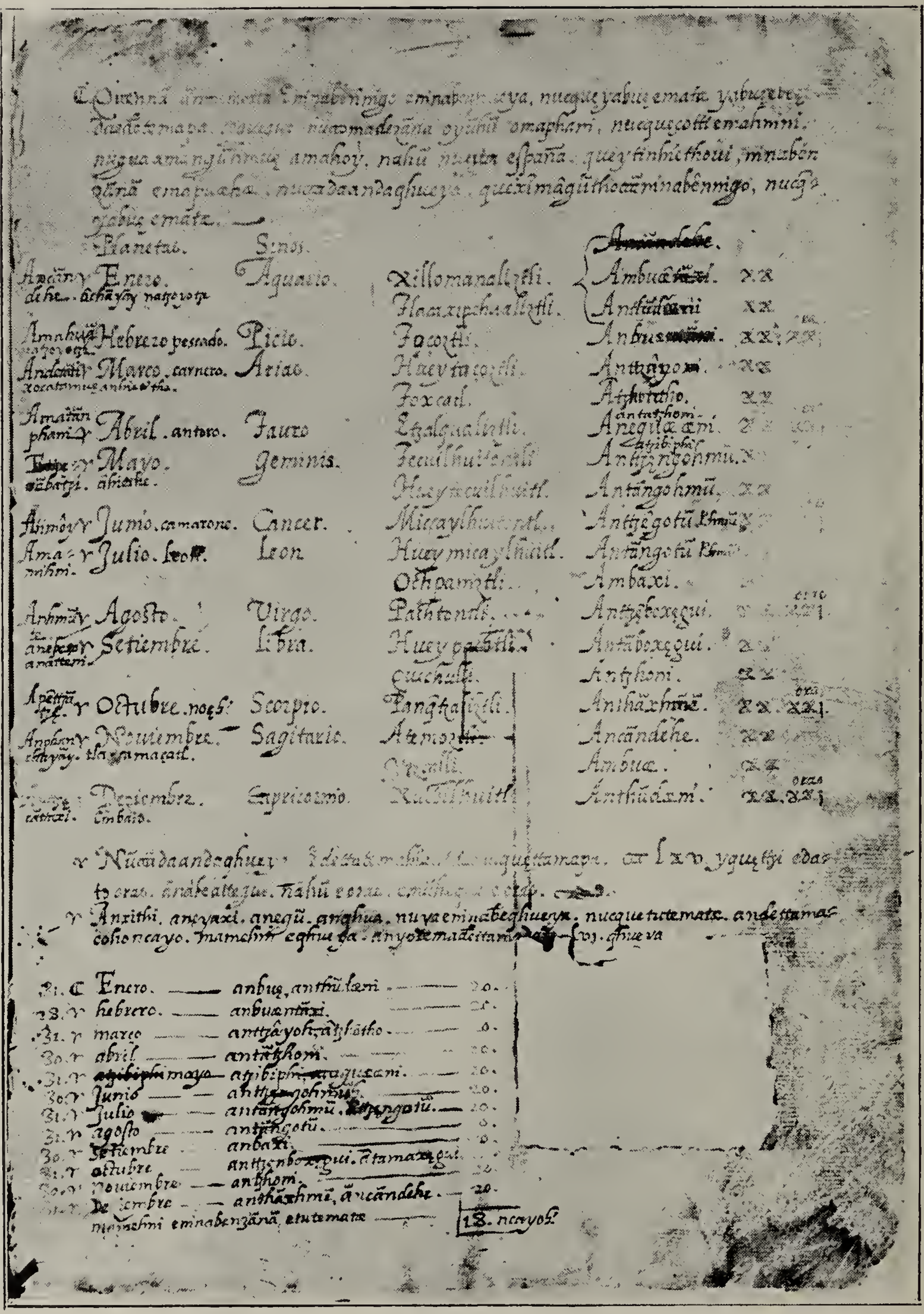


℄ Enero — Aquarios. 31. Anãndehe. anbuendãxi. antzayo.
Y Enero.
1 Antoghuay.
2 amadãmi.
3 anegũ.
4 anbotiga.
5 anequeyã
6 anyãyãy ãtu.
7 anphamixãntehe.
8 anghua.
9 andehe.
10 anyos.
11 amatzepâ
12 anchãxttay
13 anxithi
14 anhmatzhãmi
15 angaxemi.
16 mathecha ãxmi.
17 anquitzhey
18 aneyaxi
19 anyeh.
20 Andami.
21 antoghuay.
22 amadãmi
23 anegu.
24 anbotiga
25 anequeyã
26 anyayay
27 anphami
28 anghua
29 andehe.
30 anyos.
31 amatzepa

℄ Hebrero Pices. 28. Amahuã. Anthonthe. — 21. otas.
1 Amatzepa. anchãxttay. anxithi. anhmatzhãmi. angaxemi. anthechâ. ãquitzhey.
ãneyaxi. anyeh. andami. antoghuay. amadãmi. anegũ. anbotiga. anequeyã.
ãnyayãy. anphami. anghua. andehe. anyos. amatzepâ. anchãxttay. anxithi.
ãnhmatzhãmi. angaxemi. anthecha. anquitzhey. aneyaxi. 28. mapa.

℄ Marco. Arias. 31. Andetãti. Antzghoni, atzighi.

NOMBRES DE LOS DIAS, SEGÚN EL CÓDICE OTOMÍ, PÁGINA 11



[illegible] eminabenmigo emmabo[illegible] nuequeyabueemate [illegible] nuomadezana oyubi omaphari, nuequecotti emahmmi. nugua [illegible] amahoy. nahu nueua españa. queytinbuthoui, minabēn qānā emapuaha. nuezdaandaghueya. queximāgūthocāminabēnmigo, nuequeyabuee matz. —

	Planetas.	Sinos.
Ampāny dihe. āchāyāy natzeyotz	Enero.	Aquario.
Amahuā natzeyotz	Hebrero pescado.	Picis.
Andāmiy xocatzmue anhuæ tho.	Março. carnero.	Arias.
Amaūn phani	Abril. antoro.	Tauro
~~Tzitze~~ āābatzi. āhiathe.	Mayo.	Geminis.
Ānmōy	Junio. camarone.	Cancer.
Amā nihmi.	Julio. leon.	Leon
Anhmāy	Agosto.	Virgo.
ānekepy anātteni.	Setiembre.	libra.
Apētzā tze.	Octubre. noçs.	Scorpio.
Anphāny ethyāy. tlaxamacatl.	Nouiembre.	Sagitario.
[illegible] eāthixi.	Deziembre. ēnbaio.	Capricornio.

	~~Amcandehe~~.	
Xillomanaliztli.	Ambuæ~~mi~~.	xx
Tlacaxipehualiztli.	Anthudæmi	xx
Tozoztli.	Anbuæ~~mi~~.	xx. xx
Hueytozoztli.	Antzāyoni.	xx
Toxcatl.	Atzhotho.	xx
Etzalqualiztli.	antzhomi Anegitaæmi.	xx
Tecuilhuitontli	atzibiphi Antzāngohmu.	x
Hueytecuilhuitl.	Antāngohmu.	xx
Micaylhuitontli.	Antzegotu khmu.	x
Hueymicaylhuitl.	Antāngotu khmu.	
Ochpaniztli.	Ambaxi.	
Pachtontli.	Antzebexegui.	ctro xxi.
Hueypachtli.	Antābexegui.	xx
Quechulli.	Antzhoni.	xx
Panquetzaliztli.	Anthāxhmē.	otra xx. xxi.
Atemoztli.	Ancāndehe.	xx
[illegible]	Ambuæ.	xx
[illegible]	Anthūdæmi.	otra xx. xxi.

Nūcūdaandeghuey [illegible] nuquettamapa. ca lxv. yguetzi edas tzoras. ānābeattegue. nahu eoras. [illegible]

Anxithi. anzyaxi. anegū. anghua. nuyaeminabeghueya. nucquetetemate. andettama coho ncayo. mamehmi eghue ya. anyotemadettama [illegible] (vj. ghue va

31.	Enero.	anbue, anthudæmi	20.
28.	hebrero.	anbuæmixi.	20.
31.	março	antzāyoni, atzhotho.	20.
30.	abril	antāthomi.	20.
31.	~~atzibiphi~~ mayo	atzibiphi ~~anegitaæmi~~.	20.
30.	Junio	antz~~ā~~ngohmu.	20.
31.	Julio	antāngohmu. ~~antzegotu~~.	20.
31.	agosto	antāngotu.	20.
30.	setiembre	anbaxi.	20.
31.	octubre	antzenbexegui. ātamaxegui.	20.
30.	nouiembre	anthomi.	20.
31.	Deziembre	anthaxhmē, ācāndehe.	20.

meinehmi eminabenzānā, atutemate — 18. ncayoh

NOMBRES DE LOS MESES SEGÚN EL CÓDICE OTOMÍ, PÁGINA 13

CÓDICE OTOMÍ	VOCABULARIOS	CASTELLANO	MEXICANO	CASTELLANO
15. *Angaxeni*	*Xeni ?*	Escudriñar	*Cuauhtli*	Aguila
16. *Anthecha*	*Ochă ?*	Dios[5]	*Cozcacuauhtli*	Zopilote rey
17. *Anquitzhĕy*	*Qhytzi hay*	Levantarse la tierra	*Ollin*	Temblor
18. *Aneyaxi*	*Yaxa ?*	Uñas	*Tecpatl*	Pedernal
19. *Anyeh*	*Ye*	Lluvia	*Quiahuitl*	Lluvia
20. *Andoeni*	*Deeni*	Flor	*Xochitl*	Flor

Como vemos, la lista empieza con el día que entre los mexicanos corresponde al *Cipactli,* primer día del *Tonalamatl*; pero se han suprimido los números de 1 a 13 que en todos los otros calendarios indígenas que conocemos, acompañaban a los signos de los días.

El cronista hace coincidir el día *Antoqhuay* que corresponde al *Cipactli,* con el primero de enero; se trata de un intento, de los muchos que hubo, para poner de acuerdo la cronología indígena con la Cristiana.

Después siguen los días del mes de febrero, pero aquí el cronista comete un error evidente, pues nos dice que al 31 de enero corresponde el día *Amatzepa* y después lo repite como primer día de febrero (véase Lám. II).

En la página 13 del Códice, aparece la segunda parte del calendario, o sea la lista de los meses.

Aquí el cronista ha tratado de establecer una correlación entre tres calendarios: el Otomí, el Mexicano y el Cristiano; pero además entre la columna de los meses europeos y los mexicanos, ha puesto otra serie, con los signos del zodiaco correspondientes.

Al hacer las correcciones, con una tinta más negra, alguien puso a la izquierda de la primera columna, otra en donde están traducidos al Otomí los nombres de los signos del zodiaco; así tenemos:

Ancăndehe para el Acuario (dehe = agua) *Amahuă* por los Peces (hûâ = pescado); *Amatănphani* o *antoro* para el Tauro (*phani* = venado); *Anhmŭ* para Virgo (hmŭte = virgen). *Anphanchayăy* para Sagitario, (*phani* =venado; *anchăyăy* = persona), y el cronista lo traduce al *nahuatl* literalmente por *tlacamaçatl.*: hombre-venado.

Indudablemente los nombres de los meses en Otomí también corresponden con los mexicanos, como podemos verlo en *Atemoztli* = *Ancandehe,* pero no he podido, con los vocabularios impresos, hacer una traducción de todos ellos.

Notamos en cambio, que faltan los 5 días demasiados o *Nemontemi,* a pesar de que sabemos que existían en el calendario Otomí, pues el Padre Esteban García[6] dice:—

> "tuvieron estos indios el año dividido en diez y ocho meses, cada mes de veinte días, que hacen número de trescientos sesenta días, y a los cinco que faltan para el cumplimiento de nuestro año llaman en la lengua otomí *dupa* (días muertos), y los mexicanos, días aciagos, siendo su primer día del año el 2 de febrero, por lo cual estos falsos sacerdotes cuidaban mucho de la fiesta de la Purificación, que ellos llaman la bendición de las candelas."

---

[5] En el Calendario de Meztitlán, en vez de *Cozcacuauhtli* están las palabras *Teotl* y *Tonal* que significan Dios y Sol; en el Calendario Pirinda aparece la palabra *Ynhiabi* que significa Sol y Día, según el Vocabulario de Basalenque.

[6] *Crónica de la Provincia Agustiniana del Santísimo Nombre de Jesús de México,* Libro Quinto compuesto por el P. M. Fr. Esteban García, Madrid, 1918, p. 301.

Añadiendo el nombre de *dupá* (formado de *atú* = muerto y *mapá* = dia) a los nombres de los meses que encontramos en la página 13 del Códice, tenemos la siguiente lista:—

1. Anbue
2. Anthudoeni
3. Ambuoentăxi
4. Anttzăyoh
5. Âtzhôtho
6. Antătzhoni
7. Atzibiphi
8. Aneguoe oeni
9. Anttzengohmŭh
10. Antangohmŭ
11. Attzengotŭ
12. Antăngotŭ
13. Anbaxi
14. Anttzenboxegui
15. Âtamaxegui (Antăboxegui)
16. Antzhoni
17. Anthăxhmĕ
18. Ăncăndehe.

Nemontemi Dupá.

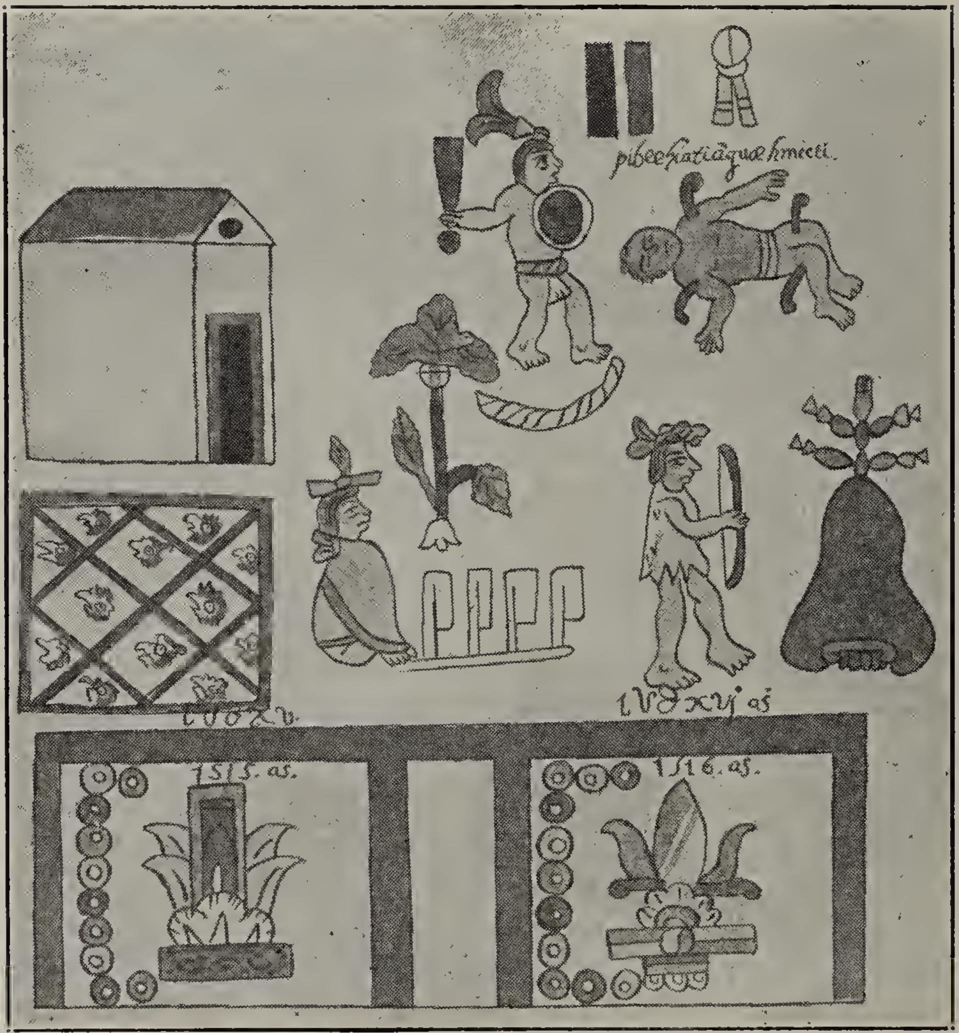
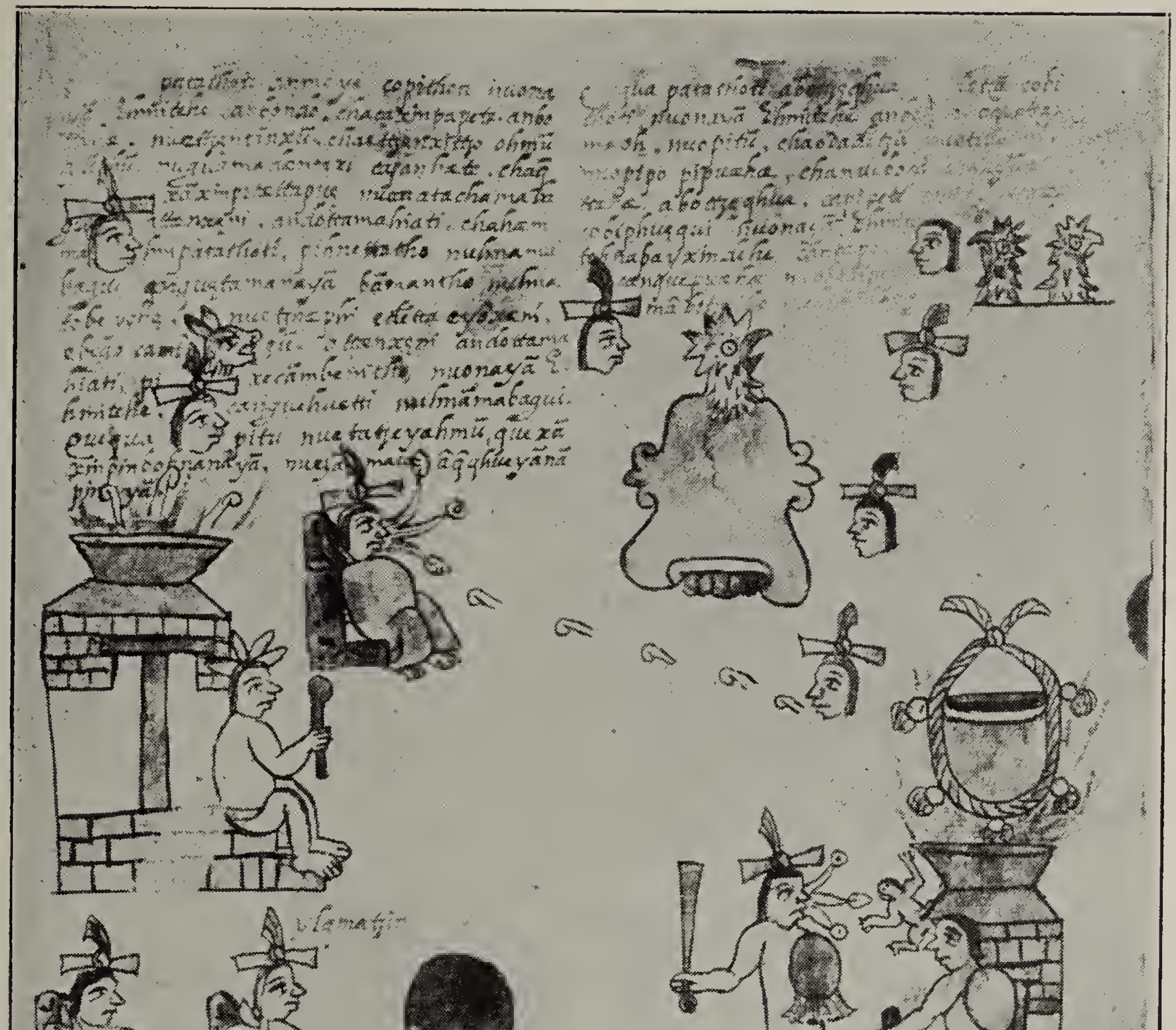


FIG. 2—PÁGINA 62, CÓDICE OTOMÍ

Después de las páginas que contienen el calendario, las demás tienen pinturas jeroglíficas acompañadas de extensas leyendas en Otomí y de algunas notas en español y nahuatl.

Las pinturas son de carácter histórico, y principian por el año cíclico 2 *acatl* (1403) sobre el cual aparece el primer *tlacatecuhtli* de México, *Acamapichtli*, llamado en Otomí *Edâmmitti ănxithi*.

Terminan las pinturas en el año de 10 *Tecpatl* (1528) en el que se señala la muerte de un cacique llamado *Eyogua*, y su jeroglífico es la cabeza de un cuadrúpedo, quizá un perro o coyote.


ylamatzin
1 Vare. lxxvij.
1 Vare. lxxviij.
14-8

PÁGINA 49 DEL CODICE OTOMÍ

Para dar una idea del estilo de esta parte del Códice, he tomado una fotografía de la pág. 49 (Lam. IV) y dos dibujos a la acuarela de las páginas 60 y 62.

En la página 60 aparece el año cíclico 2 *acatl* 1507, último en el que celebraron los mexicanos la ceremonia del fuego nuevo. El acontecimiento se indica en el Códice poniendo fondo negro al cuadrete del año 2 *acatl* y acompañándolo con una serpiente y una bandera. Hasta en la página 38 en que por un error el pintor puso 3 *acatl* en vez de 2 *acatl,* el cuadrete tiene fondo negro y arriba de él está la bandera.

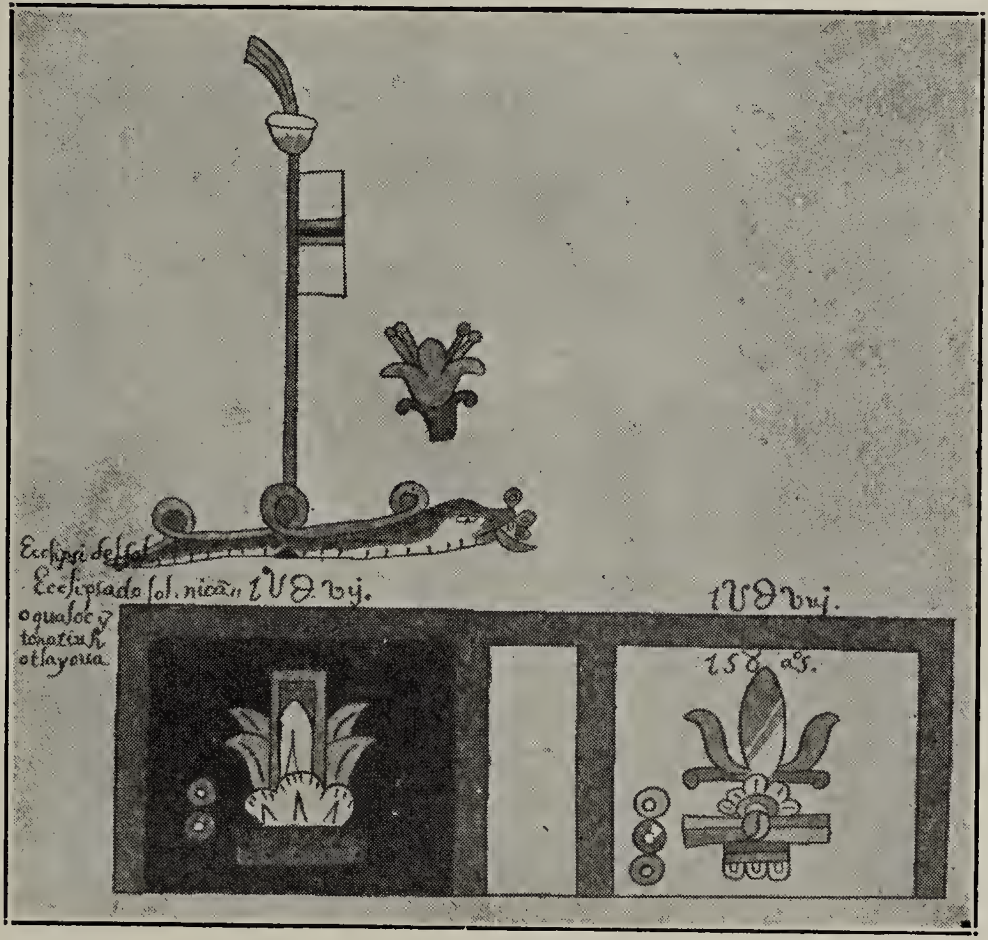


FIG. 3—PÁGINA 60, CÓDICE OTOMÍ

Junto a este año cíclico aparecen siempre en el Códice dos leyendas, en castellano y *nahuatl,* que dicen lo mismo: ''Eclipsi del Sol. Ecclipsado Sol.'' ''*Nicā oqualoc ỹ tonatium otlayoua.*''

Leyendas que están de acuerdo con la concepción mexicana de que en un año 2 *acatl* se había de acabar el sol.

Estas brevas notas servirán para dar a conocer a los americanistas la existencia del Códice Otomí y su parte más notable: el calendario.

Espero publicar todo el Códice en el apéndice al tercer tomo de la *Revista Mexicana de Estudios Históricos* correspondiente al año próximo de 1929.

Publicaré en la *Revista* el texto Otomí completo y quizá también una traducción, con el Vocabulario anónimo manuscrito que se conserva en la Biblioteca Nacional de México.

MEXICO, D. F.

FACTORS WHICH MAY LEAD TO A CORRELATION OF MAYA AND CHRISTIAN DATES

By John E. Teeple

In Christian countries we date our monuments from a point in time about nineteen hundred and twenty-eight years ago. The Maya dated theirs from a non-historical point, possibly five thousand years ago. It is hardly necessary to emphasize the extreme importance of correlating these two systems, of finding some point in time which we can express accurately in both systems. Many attempts have been made to do this and several correlations are now extant. Some of these are being used rather carelessly, to the confusion of the general reader when he finds a given Maya date equated with Christian dates several hundred years apart. This is a very undesirable situation and general writers would probably do well to make it clear that no correlation has yet been generally accepted. There is something to be said in favor of every correlation suggested, but, unfortunately, only one of them can be right.

The last few years have produced some rather definite evidence from the inscriptions and codices which has not, up to the present, been taken into account very seriously. This evidence is not sufficient of itself to determine a correlation, but if accepted it is sufficient in many cases to decide that a proposed correlation is incompatible with the facts. It seems wise to review a few of these factors at this time and see whether we can reach agreement on them.[1]

1. *The Long Count.* Christmas of this year may be expressed as 1928–12–25. This is essentially decimal count in years (months and days being added separately) and expresses current time. It would be read "In the nineteen hundred and twenty-eighth year from our starting point in the twelfth month on the twenty-fifth day." If we counted by elapsed time the date would be 1927–11–24, *i.e.,* nineteen hundred and twenty-seven years eleven months and twenty-four days have elapsed since our starting point. Now the Maya counted by elapsed time; their count was vigesimal instead of decimal, and the count was in *tuns* (*uinals* and *kins* being added separately). The *tun* was a three hundred and sixty day period made up of eighteen *uinals* or months of twenty *kins* or days each. A Maya date 9.16.4.10.8 consequently is 3924 *tuns,* 10 *uinals* and 8 *kins.* This is not an effort to count days by an abortive vigesimal system which requires eighteen units of the penult instead of twenty to make one unit of the antepenult. It is a count of *tuns,* not days, and is in a true vigesimal system, as Mr. W. E. Gates first pointed out to me.

In this long count of the *tuns* we have many monuments with contemporary dates covering the period of about five hundred and sixty years from about 8.14.0.0.0 to later than 10.2.0.0.0.

---

[1] For further development of this evidence see articles in the *American Anthropologist,* n. s., vol. 27, pp. 108–115, 1925; vol. 27, pp. 544–549, 1925; vol. 28, pp. 402–408; vol. 29, pp. 278–291, 1927; vol. 30, pp. 391–407, 1928.

2. The Lunar Series. Many of these long count dates, probably one hundred and fifty of them, are accompanied by a statement regarding the moon on the given date. Date 9.16.0.0.0, for example, is said to be five moons and five days after the new moon beginning the lunar half year. Statements of this kind are so numerous in the inscriptions and are in such agreement with each other that the coefficients could hardly be susceptible to any other interpretation. Only two questions need be raised here. First, how do we know that we are dealing with new moon and not some other phase of the moon? There are four reasons why the count should start at new moon: (a) This is usual among people everywhere who depend on lunar observations. (b) Among the Maya the Venus count started when Venus reappeared after conjunction with the sun, and new moon is the analogous position for starting the lunar count. We shall likewise probably find that the Maya day began at sunrise. (c) The lunar eclipse table on pages 51 to 58 of the Dresden Codex is a table of solar eclipse syzygies and consequently the lunar count must be from new moon. (d) Bishop Landa states explicitly that the count was from the time when the moon rises new.

The second question that has been raised is whether we have to do with actual positions of the moon, either observed or computed at very short range, or whether we are dealing with a formal but incorrect lunar calendar which may be widely at variance with actual moon positions. I find no evidence at all that any such formal calendar ever existed. On the other hand, the close conformity throughout between what was recorded and what must have been observed, and even the slight discrepancies between cities and the small fluctuations in any given city, all are natural if the Maya depended on observation, but are quite incompatible with any formal calendar.

Any proposed correlation, then, must make 9.16.0.0.0 fall about five days after new moon.

3. The Standard Lunar Grouping. At all times the moons of the lunar series were arranged in groups, not over six to a group covering a period of nearly one-half year or less. Before 9.12.15.0.0 we do not know the system of grouping in any city and there was no agreement between the cities. After 9.12.15.0.0 all cities agreed in using exactly six moons to make a lunar half-year and this standard lunar half-year began at the same time in every city. Every city would have written 9.16.0.0.0, for example, as five moons and about five days, or about one hundred and fifty-three days after beginning a lunar half-year and would have begun the next lunar half-year at the next new moon about twenty-four days later, at 9.16.0.1.4. This was a perfectly good and uniform system much like the Arab uses today.

In 9.16.5.0.0, however, Copan abandoned this system and started the previous lunar half-year at 9.16.4.10.8 instead of at the preceding new moon 9.16.4.8.19, as should have been done by the standard lunar calendar. Thereafter, Copan inserted a five moon group among the six moon groups just often enough to make the new moon ending a group always fall near the half eclipse year instead of exactly at the half lunar year. This was a tremendous advance among a people to whom an eclipse of the sun must have had a religious importance beyond our conception.

4. The Dresden Lunar Eclipse Calendar. On pages 51 to 58 of the Dresden Codex we find a record of four hundred and five consecutive moons arranged in sixty-nine groups. Sixty of these groups contain six moons each, making exactly half lunar years. The other nine groups contain five moons each and are inserted at such intervals that every one of the sixty-nine groups ends at a new moon within less than eighteen days of the end of an eclipse half-year. That is, every group ends at a time when an eclipse might occur. Of course, not more than ten or a dozen eclipses would actually be visible in Central America during the thirty-three years of the Table, but the constructor apparently had an excellent working knowledge of the limits within which they might occur, due to an accidental relation between the *tzolkin* and the eclipse half-year.

Two *tzolkins* are five hundred and twenty days. Three eclipse half-years are 519.93 days and three lunar half-years are 531.54 days. An eclipse half-year is .02 days less than one-third of five hundred and twenty days, and a lunar half-year is 3.85 days more. Looking at the eclipse table we find group three ending at six Muluc, day 149 of the *tzolkin.* Eighteen moons later group six ends at day 160, then group nine at day 172, and group twelve at day 183. This is the extreme limit possible to go without inserting a five moon group. Either day 149 or day 183 is at least seventeen days from the end of an eclipse half-year, or the conjunction of the sun with the moon's node. Consequently group 13 has only five moons. 11,960 days earlier than group three a new moon would occur on day 149 but it would not be a possible eclipse date and 11,960 days after group twelve a new moon would recur on day 183, but no eclipse could occur. At the beginning of this eclipse table the eclipse half-years end at about days 166, 339, and 512 of the *tzolkin.* Thirty-three years later they would end 1.61 days earlier in the *tzolkin,* and thirty-three years earlier they would be correspondingly later. The eclipse table could be used only once. It is either a record of observed results over a thirty-three year period, or a computation made for a given thirty-three year period, but cannot possibly be a formal calendar for repeated re-use. It must be dated before we can make much use of it. In previous discussions I have taken the prominent date attached to it, 9.16.4.10.8 as the date of the table. Now I feel sure that this is not the date of the table, but is instead the date of the eclipse half-year when Copan first of all cities abandoned the standard calendar and began to use a lunar eclipse calendar of this type, as recorded on Stela M. We do not know how much later the table is than Stela M. The few late dates at Copan indicate that the eclipse half-year could not end later than day 185 at 9.16.5.0.0 and consequently the eclipse table is not over four hundred years later than Stela M, *i. e.,* is not later than 10.16.10.0.0. It may be much earlier. This, of course, is based on the assumption of an unbroken calendar from the inscriptions to the Dresden Codex. If we agree that the 12 Kan 2 Pop of Bishop Landa's calendar fell on July 16, 1553, as is usually stated and that no break had occurred in the calendar from the time of the inscriptions, then we could say definitely that the Dresden table was valid about 1150, and Stela M at Copan, 9.16.5.0.0 could not be dated earlier than 750 A.D., but might be much later.

It is interesting to note the spacing of the short five moon groups in the Dresden table. Beginning with group three we have ten groups before another short one occurs, then six groups, then seven groups. The next twenty-three groups are arranged in the same way, ten–six–seven, but the following twenty-three break this symmetry and run nine–seven–seven. It is not always possible to have ten successive long groups without over-running the seventeen or eighteen day limit. In the table group forty-nine ends on day 322, group fifty-two on day 334, group fifty-five on day 345, and we would expect from symmetry group fifty-eight to end on day 356, but the end of the eclipse year has now receded so much in the *tzolkin* that day 356 is not a possible eclipse date, so it is made a five moon group ending on day 327.

This again shows clearly that we are dealing with a specific occasion and not with a general calendar.

5. Venus. On pages 24 and 46 to 50 of the Dresden Codex we also have three Venus calendars and some dates and distance numbers. We know rather definitely the sequence of these calendars and their time-relations to each other. The relations of their zero dates are as follows:—

1 Ahau 3 Yaxkin
add 4.18.17.0
1 Ahau 18 Kayab
add 4.12.8.0
1 Ahau 18 Uo
add 4.18.17.0
1 Ahau 13 Mac
add 4.18.17.0
1 Ahau 3 Xul.

We know too that the Dresden lunar eclipse table was valid during the latter part of the 1 Ahau 18 Kayab calendar or the early part of the 1 Ahau 18 Uo calendar, or both. This can be computed in the same general way that we computed the relation of the lunar eclipse table to Stela M. We can be reasonably sure that the zero date of the 1 Ahau 18 Kayab table is 9.9.9.16.0 or some multiple of two calendar rounds later. If we consider that the number 1.5.14.4.0 on page 24 of the Dresden Codex is intended to date the 1 Ahau 18 Uo table from 9.9.9.16.0, then the multiple would be four, and the beginning of the 1 Ahau 18 Kayab Venus table would be 10.10.11.12.0, and of the 1 Ahau 18 Uo one would be 10.15.4.2.0. Consequently a Venus heliacal rising after inferior conjunction probably occurred about 9.16.4.10.4 or within the preceding twenty days.

We have learned quite a little regarding the Maya records of astronomical bodies but there is not quite enough to fix a definite correlation. We must find a little further data in the inscriptions or the codices. If this is impossible then we must take into account the data from early Spanish times and this involves the assumption of an unbroken calendar from the earliest inscriptions to the sixteenth century and also probably the assumption that July 16, 1553, was 12 Kan 2 Pop. But if we must make these two assumptions then I am quite content with the Goodman correlation placing 11.16.0.0.0 about Nov. 3, 1539. At least this correlation does no violence to anything in the inscriptions or codices discussed above.

New York City.

THE ECLIPSE TABLE OF THE DRESDEN CODEX

By H. J. Spinden

IN a separate article presented to this Congress[1] the astronomical matter in Maya writings is explained in some detail, more especially the manner in which the Venus calendar was used. Also several interlocking calculations of Venus and the Moon are transcribed and examples are given of the Metonic cycle of 6940 days and the more typical Maya cycle of the Moon which has a length of 11960 days. In addition historical places, in strict conformity to the construction of the Maya calendar, are found where the famous tables of Venus in the Dresden Codex function with remarkable accuracy to give the dates when this planet makes its heliacal rising as morning star. Texts from ancient monuments are offered for consideration in which other heliacal risings are recorded with appropriate hieroglyphs and these also coincide with the events. The Venus cult of the ancient Maya is shown to have been an elaborate affair, partly astronomical and partly astrological, and the suggestion is made that votive temples and monuments were erected at special configurations of the planets, probably to ward off dreaded calamities.

The transcriptions of Maya dates to reach the astronomical positions of Venus, the Moon, etc., are made in accordance with a day-for-day correlation of the Maya and Gregorian chronological systems originally formed on double datings of the Spanish Conquest.[2] A later amplification, in which most of the known dates of the Maya were transcribed, disclosed the fact that dates which coincide with the equinoxes and solstices are accompanied by ideographic glyphs of these stations in the natural year. Still other confirmations of the correlation were obtained from the observatories constructed by the Maya giving present readings that coincide with dates inscribed on the monuments of several cities.[3]

---

[1] Spinden, H. J., Maya Inscriptions dealing with Venus and the Moon, *Bulletin, Buffalo Society of Natural Sciences*, vol. 14, no. 1, Buffalo, 1928.

[2] Spinden, H. J., Central American Calendars and the Gregorian Day, *Proceedings, National Academy of Science*, vol. 6, no. 2, pp. 56–59, Washington, 1920.

The Reduction of Mayan Dates, *Papers, Peabody Museum of Harvard University*, vol. 6, no. 4, pp. 1–286, Cambridge, 1924.

[3] Blom, Frans, Report of Frans Blom on the Preliminary work at Uaxactun, Guatemala, *Year Book No. 23, Carnegie Institution of Washington*, pp. 217–228, Washington, 1924.

Morley, S. G., Research in Middle American Archeology, article, The Copan Expedition, *Year Book No. 25, Carnegie Institution of Washington*, pp. 277–282, Washington, 1926.

Ricketson, O. G., Report of O. G. Ricketson, Jr., on the Uaxactun Project, *Year Book No. 26, Carnegie Institution of Washington*, pp. 256–263, Washington, 1927.

Astronomical Observatories in the Maya Area, *The Geographical Review*, vol. XVIII, pp. 215–225. New York, 1928.

Notes on two Maya Astronomic Observatories, *American Anthropologist*, N. S., vol. 30, pp. 434–444, Menasha, 1928.

Spinden, H. J., Ancient Mayan Astronomy, *Scientific American*, Jan., 1928, pp. 9–12, New York, 1927.

The present paper concerns the historical position of the eclipse table on pages 51 to 58 of the Dresden Codex. I here deal with a subject that has received much attention from able scientists. The painstaking effort of the late Robert W. Willson, professor of astronomy at Harvard University, to solve the historical position of this eclipse table without the aid of a day-for-day correlation, at least serves to indicate to what extent it may be expected to function when its real place is found. Unfortunately we cannot read much of the text which accompanies the numbers in the ancient *vade mecum* of eclipses and, needless to say, must be on guard against making one assumption in places where several are possible. Perhaps the best approach to the subject is found in an historical survey of previous studies.

The lunar table on pages 51 to 58 of the Dresden Codex was first examined specifically by Ernst Förstemann,[4] who recognized from the numerical intervals that the Moon was being dealt with. The Maya *tzolkin,* or permutation of named and numbered days, has a cycle of two hundred and sixty positions. In this table it is counted over with lunations till a cycle or reëntering series is established at 46 times 260 or 11960 days, which correspond very closely indeed to 405 lunations as 405 times 29.53058877315 days = 11959.888453125 days. The error is only .11 of a day and the convenience of the table consists in the fact that the same beginning day in the peculiar designations of the Maya can be used over and over again in connection with the Moon.

Förstemann thought that the purpose of the Maya in constructing this table was to combine 405 revolutions of the Moon with 104 revolutions of Mercury, calculated at 115 days, even though the error would amount to over ninety days in the case of Mercury. The important fact is that Förstemann had no inkling that the peculiar arrangement of the lunar intervals was concerned in any way with eclipse possibilities. In his *Commentary on the Dresden Codex* he made several corrections in the lunar table on the plea of uniformity, which really were uncalled for, and which were dismissed by Bowditch[5] in a later study of the same text. The necessary emendations[6] lead to a statement which can be transcribed in the following form (Table I) after the arrangement of Bowditch.

The original tabulation is made horizontally rather than vertically and it must be observed that the day signs run with the numbers in three series arranged in coördinated rows. Only the top row of day signs is given in this

---

[4] Förstemann, Ernst, *Erlauterungen zur Mayahandschrift der Königlichen öffentlichen Bibliothek zur Dresden,* Dresden, 1886.

Zur Entzifferung der Mayahandschrift, I–VII, Dresden, 1887–1898, Especially: V (1895), *Zu Dresd. 71–73 und 51–58.* VII (1898), *Die Reihe Dresd. 51 bis 58.* This series of articles has been translated under the title Aids to the Deciphering of the Maya Manuscripts, in *Bulletin 28, Bureau American Ethnology,* pp. 397–472, Washington, 1904.

Commentar zur Mayahandschrift der Königlichen öffentlichen Bibliothek zu Dresden, Dresden, 1901. Translated as Commentary on the Maya Manuscript in the Royal Public Library of Dresden, *Papers, Peabody Museum of Harvard University,* vol. 4, no. 2, pp. 49–266, Cambridge, 1906.

[5] Bowditch, Charles P., *The Numeration, Calendar Systems and Astronomical Knowledge of the Mayas,* Cambridge, 1910. The treatment occurs on pages 211–229.

[6] These corrections are also discussed by Guthe, Carl E., A Possible Solution of the Number Series on Pages 51 to 58 of the Dresden Codex, *Papers, Peabody Museum of Harvard University,* vol. 6, no. 2, Cambridge, 1921.

TABLE I

NUMBERS AND DAYS IN DRESDEN CODEX, PAGES 51 TO 58

		Page	53a
1.	177	177	6 Kan
2.	354	177	1 Ymix
3.	502	148	6 Muluc
			Picture
4.	679	177	1 Cimi
5.	856	177	9 Akbal
6.	1033	177	4 Ahau
		Page	54a
7.	1211	178	13 Eznab
8.	1388	177	8 Men
9.	1565	177	3 Eb
10.	1742	177	11 Muluc
11.	1919	177	6 Cimi
12.	2096	177	1 Akbal
13.	2244	148	6 Chuen
		Page	55a
			Picture
14.	2422	178	2 Muluc
15.	2599	177	10 Cimi
16.	2776	177	5 Akbal
17.	2953	177	13 Ahau
18.	3130	177	8 Caban
		Page	56a
19.	3278	148	13 Chicchan
			Picture
20.	3455	177	8 Ik
21.	3632	177	3 Cauac
22.	3809	177	11 Cib
		Page	57a
23.	3986	178	7 Ix
		Page	57a
24.	4163	177	2 Chuen
25.	4340	177	10 Lamat
26.	4488	148	2 Cib
			Picture
		Page	58a
27.	4665	177	10 Ben
28.	4842	177	5 Oc
29.	5020	178	1 Lamat
30.	5197	177	9 Chicchan
		Page	51b
31.	5374	177	4 Ik
32.	5551	177	12 Cauac
33.	5728	177	7 Cib
34.	5905	177	2 Ben
35.	6082	177	10 Oc
36.	6230	148	2 Eznab
		Page	52b
			Picture
37.	6408	178	11 Cib
38.	6585	177	6 Ben
39.	6762	177	1 Oc
40.	6939	177	9 Manik
		Page	53b
41.	7116	177	4 Kan
42.	7264	148	9 Eb
			Picture
43.	7441	177	4 Muluc
44.	7618	177	12 Cimi
45.	7795	177	7 Akbal
		Page	54b
46.	7972	177	2 Ahau
		Page	54b
47.	8149	177	10 Caban
48.	8326	177	5 Ix
49.	8474	148	10 Ik
			Picture
50.	8651	177	5 Cauac
		Page	55b
51.	8828	177	13 Cib
52.	9006	178	9 Ix
53.	9183	177	4 Chuen
54.	9360	177	12 Lamat
55.	9537	177	7 Chicchan
56.	9714	177	2 Ik
57.	9891	177	10 Cauac
58.	10039	148	2 Manik
		Page	56b
56.	10216	177	10 Kan
			Picture
60.	10394	178	6 Ik
61.	10571	177	1 Cauac
62.	10748	177	9 Cib
		Page	57b
63.	10925	177	4 Ben
64.	11102	177	12 Oc
65.	11250	148	4 Eznab
			Picture
66.	11427	177	12 Men
67.	11604	177	7 Eb
		Page	58b
68.	11781	177	2 Muluc
69.	11958	177	10 Cimi
			Picture

transcription. The day signs of the middle and lower rows are one and two days respectively, distant in the Maya permutation from the coördinated day signs of the top row. The first day signs written in the upper left-hand corner are 6 Kan for the top row, 7 Chicchan for the middle row and 8 Cimi for the bottom row but the real beginnings of the table are probably to be construed as the days 10 Cimi, 11 Manik, and 12 Lamat, which are the last days in the three rows in question.

The first column in Table I gives the number of the lunation group, or of the eclipse station, although Bowditch, like Förstemann was unaware of this circumstance. The second column is an accumulative number series, and the third column is a non-accumulative one, both relating to the numbers of days in the lunation groups, to the intervals between the day signs in each row, and to the intervals between possible eclipse stations. The fourth column corresponds to the top row of day signs in the manuscript.

Features that were formerly regarded as discrepancies have added great significance now that the table is disclosed as a generalized statement of the necessary intervals between eclipses. To be a reëntering cycle the table must cover 11960 days, but the accumulative count of the second column reaches only 11958 days and if the first distance number is the actually recorded 177 instead of the required 178 then the third column adds up to 11959 days. The table is divided structurally into three sections of 3986 each, and is further subdivided into 69 groups of 5 or 6 lunations each, the 5 lunation groups calculated at 148 days and the 6 lunation groups at 177 or 178 days. Nine pictures interrupt this text of numbers and day signs and a tenth one is at the end of the table.

TABLE II

POSITIONS OF PICTURES IN THE LUNAR TABLE OF THE DRESDEN CODEX

Zero of the table + 502 days = first picture
First picture + 1742 days = second picture
Second picture + 1034 days = third picture
Third picture + 1210 days = fourth picture
Fourth picture + 1742 days = fifth picture
Fifth picture + 1034 days = sixth picture
Sixth picture + 1210 days = seventh picture
Seventh picture + 1565 days = eighth picture
Eighth picture + 1211 days = ninth picture
Ninth picture + 708 days = tenth picture

The first demonstration[7] that the lunar table of the Dresden Codex was intended to strike eclipse days was made by Meinshausen in 1913. He compared the intervals of eclipses in recent times with those recorded in the ancient Maya manuscript, referring to the ten pictures in the text in the following words:—[8]

> "Another indication that the numbers in the codex have arisen from the observation of eclipses lies in the fact that the exact grouping of the numbers which is brought about by the insetting of pictures in the numerical series is also possible in lunar eclipses which are visible at a particular locality."

Meinshausen went a step further and concluded that lunar and solar eclipses were considered jointly in some of these pictures or, at least, that emphasis was put on the circumstance when a solar and a lunar eclipse occurred within fifteen days.

Guthe published in 1921 a thesis[9] which was a careful study of the contents of pages 51 to 58 of the Dresden Codex, first considering the question of emendations in the text and secondly the evidence that the Maya manipulated twenty-nine and thirty day months to achieve the closest approximations between groupings of such months and eclipse half years. His conclusion was:—

> "The numerical series of these pages of the Dresden record, then, an eclipse calendar which is referred to a lunar calendar."

The labors of Robert W. Willson,[10] a professor of astronomy at Harvard University in this field, are represented by a posthumous paper published in

---

[7] Meinshausen, Martin, Über Sonnen-und Mondfinsternisse in der Dresdener Mayahandschrift, *Zeitschrift für Ethnologie* Bd. 45, pp. 221–227, Berlin, 1913.

[8] *Op. cit.*, p. 225.

[9] *Op. cit.*

[10] Willson, Robert W., Astronomical Notes on the Maya Codices, *Papers, Peabody Museum, Harvard University,* vol. 6, no. 3, Cambridge, 1924.

1924. Willson undoubtedly recognized the eclipse significance of pages 51 to 58 of the Dresden Codex before the publication of Meinshausen's paper because in 1912 he set out to find, if possible, the necessary historical position of a series of solar eclipses that would meet the conditions therein imposed. He compiled a list of all eclipses visible in Maya territory between August 31, 31 B. C., and January 2, 1508 A. D., Julian calendar, reduced this list to a long ribbon of ruled paper and set against it a shorter scale with the intervals of the pictures in the Maya manuscript. He found cases where coincidence would occur in seven instances out of the recorded nine or ten places. He says:—

> "The result of this study was to confirm the opinion that no correlation of the Mayan and Julian calendars could be found from the lunar series alone."[11]

Subsequently Willson sought to bring the eclipse evidence into conformity with that of Venus, Mars, etc., an effort which resulted in several tentative correlations, none being in agreement with the calendarial indications of Maya documents of the early Spanish era. He neglected eclipses of the Moon in the belief that these were unimportant among the Maya, but consideration of them would not have helped much in view of the chronological indecision which then obtained and the doubt concerning the meaning of hieroglyphic texts.

Some relief was developing, however, in another line of research. The supplementary series of glyphs which follows initial series numbers on monuments of the First Empire and which generally is placed between the declarations of the day and the month positions reached by the initial number, was first arranged in order by Morley[12] in 1916 although Goodman[13] in 1897 had written of it in the following words:—

> "It is evident that its purpose is to fix the position of the date it accompanies relatively to some other method or methods employed by the Maya to compute time."

Morley found that Glyphs A to G, which he named in reverse order of their occurrence, were relatively fixed in type and that a variable glyph called Glyph X frequently appeared between B and C. It seemed certain from the first that A, which was a Moon symbol with 9 or 10 for coefficient, designated a 29 or 30 day month with the Moon symbol having the value 20. Moon glyphs were prominent in other positions, so much so that Morley declared in conclusion:—[14]

> "It is already apparent that the supplementary series is a lunar count just as the initial series is a diurnal count, and, furthermore, that the former depends on the latter for its variation in every case."

It remained for John E. Teeple[15] to work out the fashion in which the lunar count of the supplementary series was made. He was able to demonstrate quite acceptably that Glyph C records entire lunations which never exceed six, that Glyph D records days of the Moon's age between zero and nineteen and that Glyph E has a basic value of twenty with coefficients which give days in excess of this value up to the limit of the remaining days of a lunation. Now the fact that Glyph C on monuments of the First Empire runs from zero to six, but never higher, provides an important contact with the procedure of the Dresden Codex which clearly belongs to a much later epoch in Maya history. In the lunar table of this manuscript the count is made, as we have seen, by groups of five and six lunations in such fashion that the intervals between eclipses are established.

---

[11] *Op. cit.*, p. 16.

[12] Morley, S. G., The Supplementary Series in the Maya Inscriptions, *Holmes Anniversary Volume*, pp. 366-396, Washington, 1916.

[13] Goodman, J. T., The Archaic Maya Inscriptions, *Biologia Centrali-Americana*, Part 18, *Archeology*, London, 1897, p. 118.

[14] *Op. cit.*, p. 396.

[15] Teeple, John E., Maya Inscriptions; Glyphs C, D, and E of the Supplementary Series, *American Anthropologist*, N. S., vol. 27, pp. 105–115, 1925.

Maya Inscriptions: Further Notes on the Supplementary Series, *American Anthropologist*, N. S., vol. 27, pp. 544–549, 1925.

Statements in the supplementary series are not entirely uniform in that Glyph C frequently differs to the extent of one lunation in otherwise equal dates. On the basis of the correlation which I have already used to explain Venus records it appears that zero of the Moon's age in the supplementary series count is equivalent for the fifth and sixth centuries A. D. to about four days before the full moon or about ten days after new moon. It seems possible that a formal lunar calendar of 11960 days, based on the correspondence between 405 lunations and forty-six rounds of the Maya *tzolkin,* was originally established early in the sixth century B. C. with lunations counted from the full phase and that the true places of the Moon had receded some four days from the original calendarial places.

This displacement of the Moon calendar from the Moon of the heavens did not mean, however, that the true positions of the latter were neglected any more than the true positions of Venus were neglected when the calendarial positions retained a cult value. I have elsewhere shown that new and full moon dates falling on round numbers in the day count according to the correlation of Maya and Gregorian chronology are emphasized and carried forward by the interval of the Metonic cycle on several Maya monuments. This cycle is a correlation of nineteen tropical years, 235 lunations, and 6940 days.

The naïve assumption of Willson and Teeple that Maya statements regarding Venus and the Moon continuously refer to true places of these bodies is entirely inconsistent with the evidence. True places of the heavenly bodies were always known to Maya astronomers, but they were not deemed to be of sufficient interest for monumental record except when a significant phase fell in an unusual combination or when it coincided with a round number in the day count. As yet no monumental inscriptions dealing with eclipses have been deciphered nor any intervals found except those of the supplementary series which seem to have eclipse significance. To be sure research has not been carried very far along such lines.

We now return to the lunar table on pages 51 to 58 of the Dresden Codex where the intervals so clearly point to a handling of eclipse data. The interval of 3986 days, or one third of the table, has been called by Willson the "Maya Saroid." He says of it:—

> "If there is an eclipse visible in tropical latitudes at a given date, the chance is a little better than one in four that there will be a second eclipse visible in the same region after 3986 days."

But Willson does not point out that the entire cycle of the lunar table of the Dresden Codex is itself the characteristic interval of families of eclipses, each continuing for hundreds of years. Eclipses, it will be remembered, fall in series which are marked by different intervals. The Babylonian Saros of 6585 days is the most famous of these intervals and is based on the following conformity:—

242	returns of the Moon to the same node	6585.357 days
19	returns of the Sun to the same Moon's node...........	6585.780 days

TABLE III

COMPARISON OF A SOLAR ECLIPSE SERIES WITH AN INTERVAL OF 11960 DAYS IN TERMS OF THE JULIAN AND MAYA TIME COUNTS

Julian Calendar	Julian Day	World Time[1]	Maya Date			
771, I, 31	2,002,331	18: 16.7	10– 10– 2– 11– 7,	11 Manik	5	Pop
	* * *	* *	* * * * *	*		
868, IV, 26	2,038,211	10: 38.1	10– 15– 2– 5– 7,	11 Manik	15	Xul
	11,960		1– 13– 4– 0			
901, I, 23	2,050,171	6: 41.8	10– 16– 15– 9– 7,	11 Manik	10	Uo
	11,959		1– 13– 3–19			
933, X, 21	2,062,130	20: 24.7	10– 18– 8– 13– 6,	10 Cimi	9	Pax
	11,960		1– 13– 4– 0			
966, VII, 20	2,074,090	16: 29.3	11– 0– 1– 17– 6,	10 Cimi	4	Ceh
	11,960		1– 13– 4– 0			
*999, IV, 18	2,086,050	17: 03.8	11– 1– 15– 3– 6,	10 Cimi	19	Yaxkin
	11,960		1– 13– 4– 0			
1032, I, 5	2,098,010	10: 57.4	11– 3– 8– 7– 6,	10 Cimi	14	Uo
	11,960		1– 13– 4– 0			
1064, X, 13	2,109,970	0: 10.7	11– 5– 1– 11– 6,	10 Cimi	14	Kayab
	11,959		1– 13– 3–19			
**1097, VII, 11	2,121,929	20: 47.5	11– 6– 14– 15– 5,	9 Chicchan	8	Mac
	11,960		1– 13– 4– 0			
**1130, IV, 9	2,133,889	21: 37.6	11– 8– 8– 1– 5,	9 Chicchan	3	Chen
	11,960		1– 13– 4– 0			
*1163, I, 6	2,145,849	15: 38.2	11– 10– 1– 5– 5,	9 Chicchan	18	Zotz
	11,960		1– 13– 4– 0			
1195, X, 5	2,157,809	6: 23.8	11– 11– 14– 9– 5,	9 Chicchan	18	Cumhu
	11,960		1– 13– 4– 0			
1228, VII, 3	2,169,769	5: 59.6	11– 13– 7– 13– 5,	9 Chicchan	13	Kankin
	11,960		1– 13– 4– 0			
1261, IV, 1	2,181,729	9: 22.2	11– 15– 0– 17– 5,	9 Chicchan	8	Yax
	11,960		1– 13– 4– 0			
1293, XII, 29	2,193,689	5: 02.5	11– 16– 14– 3– 5,	9 Chicchan	3	Xul
	11,959		1– 13– 3–19			
*1326, IX, 26	2,205,648	22: 47.9	11– 18– 7– 7– 4,	8 Kan	17	Pop
	11,961		1– 13– 4– 1			
1359, VI, 26	2,217,609	2: 16.9	12– 0– 0– 11– 5,	9 Chicchan	18	Muan
	11,960		1– 13– 4– 0			
1392, III, 24	2,229,569	7: 43.7	12– 1– 13– 15– 5,	9 Chicchan	13	Zac
	11,960		1– 13– 4– 0			
1424, XII, 21	2,241,529	3: 54.0	12– 3– 7– 1– 5,	9 Chicchan	8	Yaxkin
	11,959		1– 13– 3–19			
1457, IX, 18	2,253,488	23: 02.3	12– 5– 0– 5– 4,	8 Kan	2	Zip
	11,961		1– 13– 4– 1			
1490, VI, 18	2,265,449	3: 07.9	12– 6– 13– 9– 5,	9 Chicchan	3	Kayab

---

[1] For time in Maya area subtract six hours. Also note that the Maya day begins and ends at sunset.

* Eclipses visible in the Maya area.

** Eclipses prominent in the Maya area.

In other words 223 lunations are very nearly equal to nineteen eclipse years. The Maya lunar cycle of 11960 days is also very close to a comparable conformity between 34½ eclipse years (or sixty-nine eclipse seasons since eclipses can take place near either of the Moon's nodes) and 405 lunations. We have already seen that the Maya lunar table reaches three totals, namely, 11958, 11959, and 11960. Perhaps the first and second totals were intended to be manipulated to balance the value of 34½ eclipse years which amount to 11958.393 days while 11960 is only .11 of a day greater than the amount of 405 lunations. Eclipses occur at the moment of full moon for the lunar eclipse and the moment of the new moon for the solar eclipse.

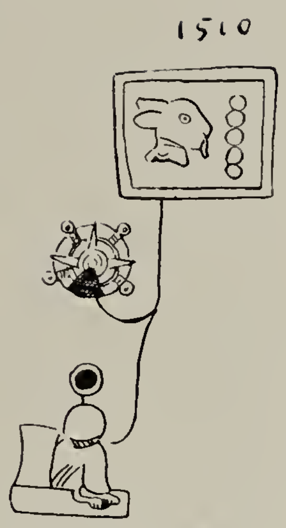


FIG. 1—AZTEC METHOD OF RECORDING AN ECLIPSE

Searching through the records of eclipses in Oppolzer's *Canon*[16] I hit upon a family separated by the interval of the Maya lunar cycle and showing three eclipses in sequence which were visible in Central America. Moreover, these eclipses strike the very day in the *tzolkin* with which the lunar table begins and they fall at the same period in history when the Venus calendars of the Dresden Codex were functioning perfectly.

I give the data of these eclipses (Table III) in such a way as to furnish a comparison of Julian and Maya dates. The numbers of the Maya day are con-

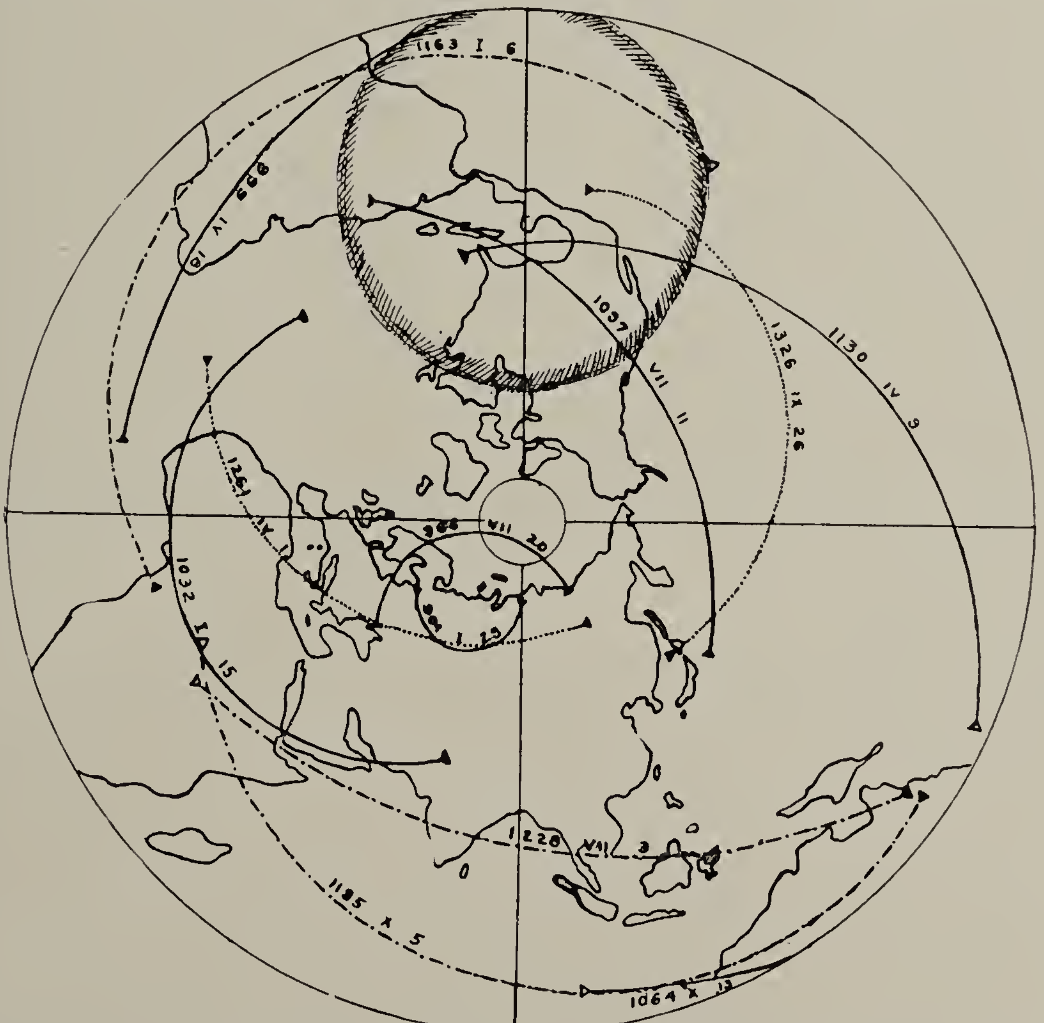


FIG. 2—SERIES OF SOLAR ECLIPSES AT INTERVALS OF 11960 DAYS. AFTER OPPOLZER'S CANON

vertible into those of the Julian day by the addition of 489384. It will be observed that the times of the eclipses recede in an irregular fashion which amounts, however, to two days and fifteen hours in 721 years. If we carry the intervals of 11960 days back into the past or forward into the future we find a second and a third family of eclipses one lunation after and one lunation before the series given here. Examining the data more extensively it appears that each family begins with partial eclipses, which would never be visible in the tropics, then passes into total eclipses, then into annular eclipses, finally reversing the process to disappear. The distribution of paths for most, if not all, of the eclipses of the family which coincides with the table of the Dresden Codex is shown in Fig. 2 with a circle of approximate visibility for the Maya area. Since the Maya table could hardly have been organized except on the basis of visible eclipses attention must, first of all, be focused on the series of three eclipses in succession which were visible, two in an important phase.

---

[16] von Oppolzer, T. R., Canon der Finsternisse, *Denkschriften der Kaiserliche Akademie der Wissenschaft, Math.-Nat. Klasse*, bd. 205, Vienna, 1887.

If we take one of these eclipses as a point of departure, or as zero, and lay down the intervals of five and six lunations as recorded in the Dresden table we strike a great majority of the solar eclipses visible in all parts of the world during the period of 11960 days, except occasional eclipses which fall within one lunation of another that is struck by the table.[17] Eclipses visible in the Maya area also coincide but not with the exact intervals of the interpolated pictures in the table. It is probable, therefore, that the table on pages 51 to 58 of the Dresden Codex is primarily a calendar of the Moon, which contains, however, generalized knowledge of eclipse intervals and which was perhaps coördinated with the special family of eclipses described above as regards its initial days. It appears that a single day shift in the correlation would bring a somewhat better concordance of the table dates with eclipse dates, in that 10 Cimi runs out before the peak of the special series, and 9 Chicchan takes its place. In other words, a one-day recession is apparent. But the elements of uncertainty are too great for the change to be made on this evidence alone. At least we can be reasonably assured that the correlation which reveals coincidences in functions of the natural year, in the operation of the Venus calendar and which finally reaches an historical explanation of dates in the lunar calendar after every other method has failed, may be depended upon to open up further mysteries of Maya astronomy.

Peabody Museum,
Harvard University.

---

[17] Since such double eclipses never are visible from the same part of the world the Maya astronomers may be excused for not divining them.

THE MAYAN LUNAR TABLE

By Juan Martínez Hernández

THE two plates (I–II) represent pages 51–58 of the Dresden Codex, reprinted by courtesy of Doctor Alfred M. Tozzer, of Harvard University. The subject treated is a lunar and eclipse table. Each page is numbered: the letters a, b, indicate the upper or lower part of the page. The dates recorded are numbered 1–30, for the upper; 31–69 for the lower, and are to be read from left to right. The unrecorded starting-point is the day 11 Manik; 177 days from this we reach 6 Kan recorded on page 53a; below this we read 7 Chic-chan, the following day; immediately below we find 8 Cimi. The one day interval was intended for corrections and repetitions of the series. Directly over 6 Kan is the number 7 Uinals 17 Kins, 177 days which will be added to the next right hand number up to the last record. This is the upper number. Below 8 Cimi we again find 177 days. This is the interval. Intervals 6, 14, 29, 37, 52, 60 are of 178 days; 3, 13, 19, 26, 36, 42, 49, 58, 65 are of 148 days. The remaining call for intervals of 177 days.

Table I has been drawn by placing record No. 58, 2 Manik, on the fifth day of the Uinal Ceh, which we found to coincide with the daily Calendar of the Books of Chilam Balam of Mani, Kaua, and Tizimin, plus the shifting of three days explained in our previous work. A new moon and eclipse of the sun visible in Yucatan took place February 24, A. D. 1542. The period of 11,960 days was thus revealed starting from 11 Manik 0 Zip, Long Count date 11.14.14.8.7, Gregorian day 2274278, August 30th, 1514. Reading from left to right, column 1 indicates the page of the Codex; 2, the record number; 3, the interval between dates; 4, the upper number; 5, the number by days, there being a difference of one day, from the upper number; 6, the Maya date; 7, the Gregorian date, since all Mayan ephemeris are exact; 8, the exact time elapsed, from Doctor R. Schram's Tables. It is significant that all these dates agree with Oppolzer's Eclipse Tables.

Table II shows the Cycle of 73 repetitions of the above, starting from 11 Manik 0 Muan. Any date ascertained within this period cannot be duplicated. The lower part is the correlation of these periods up to 12.14.13.2.7, 11 Manik 15 Xul, Gregorian day 2417798. This period predicts an eclipse, for June 18, 1928, on the date 12 Cimi 9 Zotz, with only a day's difference with our calendar.

According to Leon y Gama, *Las Dos Piedras* from *Anales de Quautitlán,* an eclipse of the sun was observed by the Aztec in the year Ome Calli, which he considers to be May 28, 1481, Julian calendar. In the Dresden Codex Table the period of 11,960 days began 11.11.8.0.7, 11 Manik 10 Zac. Adding 11,782 days, we reach 2 Muluc 12 Pax, record No. 68, June 6, 1481 Gregorian. This eclipse is shown by Oppolzer to be No. 6390. 1481. V. 28. 16h. 39m. Julian day 2262141. The iconomatic plate describes this central annular eclipse, observable all over the Mexican region, the only one visible that year. The accuracy is remarkable.

TABLE I

TABLA LUNAR MAYA

Pp. 51–58 del Códice de Dresden

Pág.	No.	Int.	Núm. Sup.	Núm. por días	Fecha Maya		Fecha Gregoriana	Tiempo exacto
	0	0	0	0	11 Manik	0 Zip	1514 Ago. 30	
53a	1	177	177	177	6 Kan	17 Zac	1515 Feb. 23	177.18
	2	177	354	354	1 Imix	9 Uo	1515 Ago. 19	354.37
	3	148	502	502	6 Muluc	17 Chen	1516 Ene. 14	502.02
					Figura			
	4	177	679	679	1 Cimi	14 Cumkú	1516 Jul. 9	679.20
	5	177	856	856	9 Akbal	6 Chen	1517 Ene. 2	856.39
	6	178	1034	1034	5 Imix	4 Cumkú	1517 Jun. 28	1033.57
54a	7	177	1211	1211	13 Edznab	16 Mol	1517 Dic. 23	1210.75
	8	177	1388	1388	8 Men	13 Kayab	1518 Jun. 18	1387.94
	9	177	1565	1565	3 Eb	5 Mol	1518 Dic. 12	1565.12
	10	177	1742	1742	11 Muluc	2 Kayab	1519 Jun. 7	1742.30
	11	177	1919	1919	6 Cimi	14 Yaxkin	1519 Dic. 1	1919.49
	12	177	2096	2096	1 Akbal	11 Pax	1520 May 26	2096.67
	13	148	2244	2244	6 Chen	14 Tzec	1520 Oct. 21	2244.32
55a					Figura			
	14	178	2422	2422	2 Muluc	12 Kankin	1521 Abr. 17	2421.51
	15	177	2599	2599	10 Cimi	4 Tzec	1521 Oct. 11	2598.69
	16	177	2776	2776	5 Akbal	1 Kankin	1522 Abr. 6	2775.88
	17	177	2953	2953	13 Ahau	13 Zodz	1522 Sep. 30	2953.06
	18	177	3130	3130	8 Caban	10 Mac	1523 Mar. 26	3130.24
56a	19	148	3278	3278	13 Chicchan	13 Uo	1523 Ago. 21	3277.90
					Figura			
	20	177	3455	3455	8 Ik	10 Zac	1524 Feb. 14	3455.08
	21	177	3632	3632	3 Cauac	2 Uo	1524 Ago. 9	3632.26
	22	177	3809	3809	11 Cib	19 Yax	1525 Feb. 2	3809.45
	23	177	3986	3987	7 Ix	12 Pop	1525 Jul. 30	3986.63
	24	177	4163	4164	2 Chuen	9 Yax	1526 Ene. 23	4163.81
	25	177	4340	4341	10 Lamat	1 Pop	1526 Jul. 19	4341.00
	26	148	4488	4489	2 Cib	9 Mol	1526 Dic. 14	4488.65
					Figura			
58a	27	177	4665	4666	10 Ben	6 Kayab	1527 Jun. 9	4665.83
	28	177	4842	4843	5 Oc	18 Yaxkin	1527 Dic. 3	4843.02
	29	178	5020	5021	1 Lamat	16 Pax	1528 May 29	5020.20
	30	177	5197	5198	9 Chicchan	8 Yaxkin	1528 Nov. 22	5197.38
51b	31	177	5374	5375	4 Ik	5 Pax	1529 May 18	5374.57
	32	177	5551	5552	12 Cauac	17 Xul	1529 Nov. 11	5551.75
	33	177	5728	5729	7 Cib	14 Muan	1530 May 7	5728.93
	34	177	5905	5906	2 Ben	6 Xul	1530 Oct. 31	5906.12
	35	177	6082	6083	10 Oc	3 Muan	1531 Abr. 26	6083.30
	36	148	6230	6231	2 Edznab	6 Zodz	1531 Sep. 21	6230.95
52b					Figura			

TABLE I—(*Continued*)

Pág.	No.	Int.	Núm. Sup.	Núm. por días	Fecha Maya		Fecha Gregoriana	Tiempo exacto
					Figura			
	37	178	6408	6409	11 Cib	4 Mac	1532 Mar. 17	6408.14
	38	177	6585	6586	6 Ben	16 Zip	1532 Sep. 10	6585.32
	39	177	6762	6763	1 Oc	13 Ceh	1533 Mar. 6	6762.51
	40	177	6939	6940	9 Manik	5 Zip	1533 Ago. 30	6939.69
53b	41	177	7116	7117	4 Kan	2 Ceh	1534 Feb. 23	7116.87
	42	148	7264	7265	9 Eb	5 Pop	1534 Jul. 21	7264.53
					Figura			
	43	177	7441	7442	4 Muluc	2 Yax	1535 Ene. 14	7441.71
	44	177	7618	7619	12 Cimi	19 Cumkú	1535 Jul. 10	7618.89
	45	177	7795	7796	7 Akbal	11 Chen	1536 Ene. 3	7796.08
54b	46	177	7972	7973	2 Ahau	8 Cumkú	1536 Jun. 28	7973.26
	47	177	8149	8150	10 Caban	0 Chen	1536 Dic. 22	8150.44
	48	177	8326	8327	5 Ix	17 Kayab	1537 Jun. 17	8327.63
	49	148	8474	8475	10 Ik	0 Yaxkin	1537 Nov. 12	8475.28
					Figura			
	50	177	8651	8652	5 Cauac	17 Muan	1538 May 8	8652.46
55b	51	177	8828	8829	13 Cib	9 Xul	1538 Nov. 1	8829.65
	52	178	9006	9007	9 Ix	7 Muan	1539 Abr. 28	9006.83
	53	177	9183	9184	4 Chuen	19 Tzec	1539 Oct. 22	9184.01
	54	177	9360	9361	12 Lamat	16 Kankin	1540 Abr. 16	9361.20
	55	177	9537	9538	7 Chicchan	8 Tzec	1540 Oct. 10	9538.38
	56	177	9714	9715	2 Ik	5 Kankin	1541 Abr. 5	9715.56
	57	177	9891	9892	10 Cauac	17 Zotz	1541 Sep. 29	9892.75
	58	148	10039	10040	2 Manik	5 Ceh	1542 Feb. 24	10040.40
56b					Figura			
	59	177	10216	10217	10 Kan	17 Uo	1542 Ago. 20	10217.58
	60	178	10394	10395	6 Ik	15 Zac	1543 Feb. 14	10394.77
	61	177	10571	10572	1 Cauac	7 Uo	1543 Ago. 10	10571.95
	62	177	10748	10749	9 Cib	4 Zac	1544 Feb. 3	10749.13
57b	63	177	10925	10926	4 Ben	16 Pop	1544 Jul. 29	10926.32
	64	177	11102	11103	12 Oc	13 Yax	1545 Ene. 22	11103.50
	65	148	11250	11251	4 Edznab	1 Cumkú	1545 Jun. 19	11251.15
					Figura			
	66	177	11427	11428	12 Men	13 Mol	1545 Dic. 13	11428.34
	67	177	11604	11605	7 Eb	10 Kayab	1546 Jun. 8	11605.52
58b	68	177	11781	11782	2 Muluc	2 Mol	1546 Dic. 2	11782.71
	69	177	11958	11959	10 Cimi	19 Pax	1547 May 29	11959.89

Table II

CICLO LUNAR MAYA, POR PERIODOS DE 11960 DIAS

11 Manik	0 Muan
11 Manik	15 Yax
11 Manik	10 Xul
11 Manik	5 Uo
11 Manik	5 Pax
11 Manik	0 Ceh
11 Manik	15 Yaxkin
11 Manik	10 Zip
11 Manik	10 Kayab
11 Manik	5 Mac
11 Manik	0 Chen
11 Manik	15 Zotz
11 Manik	15 Cumkú
11 Manik	10 Kankin
11 Manik	5 Yax
11 Manik	0 Xul
11 Manik	15 Pop
11 Manik	15 Muan
11 Manik	10 Zac
11 Manik	5 Yaxkin
11 Manik	0 Zip
11 Manik	0 Kayab
11 Manik	15 Ceh
11 Manik	10 Mol
11 Manik	5 Zotz
11 Manik	5 Cumkú
11 Manik	0 Kankin
11 Manik	15 Chen
11 Manik	10 Tzec
11 Manik	5 Pop
11 Manik	5 Muan
11 Manik	0 Zac
11 Manik	15 Xul
11 Manik	10 Uo
11 Manik	10 Pax
11 Manik	5 Ceh
11 Manik	0 Mol
11 Manik	15 Zip
11 Manik	15 Kayab
11 Manik	10 Mac
11 Manik	5 Chen
11 Manik	0 Tzec
11 Manik	0 Uayeb
11 Manik	15 Kankin
11 Manik	10 Yax
11 Manik	5 Xul
11 Manik	0 Uo
11 Manik	0 Pax
11 Manik	15 Zac
11 Manik	10 Yaxkin
11 Manik	15 Zip
11 Manik	5 Kayab
11 Manik	0 Mac
11 Manik	15 Mol
11 Manik	10 Zodz
11 Manik	10 Cumkú
11 Manik	5 Kankin
11 Manik	0 Yax
11 Manik	15 Tzec

TABLE II—(*Continued*)

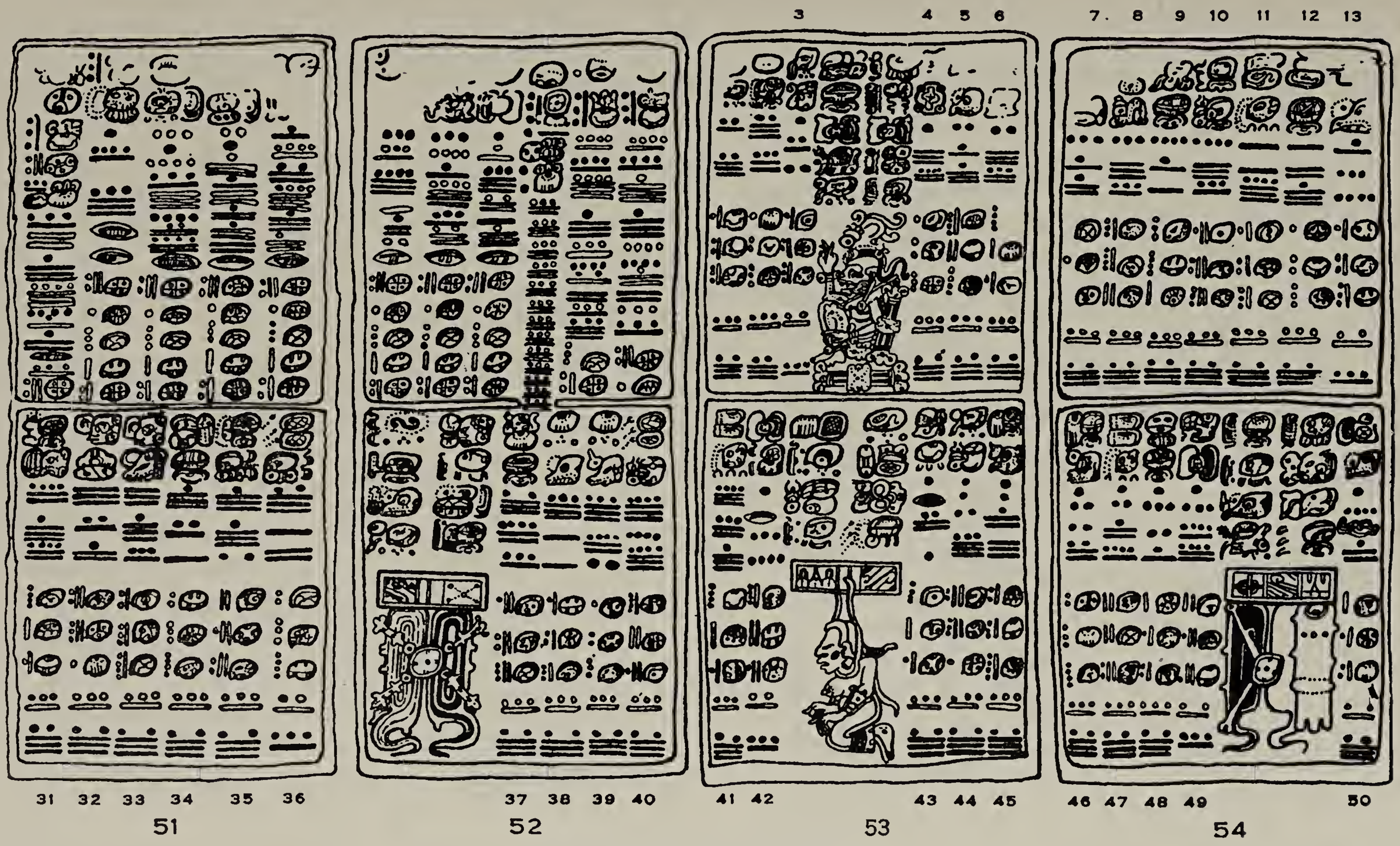
11 Manik	10 Pop
11 Manik	10 Muan
11 Manik	5 Zac
11 Manik	0 Yaxkin
11 Manik	15 Uo
11 Manik	15 Pax
11 Manik	10 Ceh
11 Manik	5 Mol
11 Manik	0 Zodz
11 Manik	0 Cumkú
11 Manik	15 Mac
11 Manik	10 Chen
11 Manik	5 Tzec
11 Manik	0 Pop

Fecha Maya		Cuenta Larga	D. J.	Greg. A. D.	
11 Manik	0 Muan	10. 1.10. 0.7	2035078	859	Oct. 2
11 Manik	15 Yax	10. 3. 3. 4.7	2047038	892	Jun. 30
11 Manik	10 Xul	10. 4.16. 8.7	2058998	925	Mar. 30
11 Manik	5 Uo	10. 6. 9.12.7	2070958	957	Dic. 27
11 Manik	5 Pax	10. 8. 2.16.7	2082918	990	Sep. 25
11 Manik	0 Ceh	10. 9.16. 2.7	2094878	1023	Jun. 25
11 Manik	15 Yaxkin	10.11. 9. 6.7	2106838	1056	Mar. 23
11 Manik	10 Zip	10.13. 2.10.7	2118798	1089	Dic. 20
11 Manik	10 Kayab	10.14.15.14.7	2130758	1121	Sep. 19
11 Manik	5 Mac	10.16. 9. 0.7	2142718	1154	Jun. 18
11 Manik	0 Chen	10.18. 2. 4.7	2154678	1187	Mar. 17
11 Manik	15 Zotz	10.19.15. 8.7	2166638	1219	Dic. 14
11 Manik	15 Cumkú	11. 1. 8.12.7	2178598	1252	Sep. 11
11 Manik	10 Kankin	11. 3. 1.16.7	2190558	1285	Jun. 10
11 Manik	5 Yax	11. 4.15. 2.7	2202518	1318	Mar. 10
11 Manik	0 Xul	11. 6. 8. 6.7	2214478	1350	Dic. 7
11 Manik	15 Pop	11. 8. 1.10.7	2226438	1383	Sep. 5
11 Manik	15 Muan	11. 9.14.14.7	2238398	1416	Jun. 4
11 Manik	10 Zac	11.11. 8. 0.7	.2250358	1449	Mar. 3
11 Manik	5 Yaxkin	11.13. 1. 4.7	2262318	1481	Nov. 30
11 Manik	0 Zip	11.14.14. 8.7	2274278	1514	Ago. 30
11 Manik	0 Kayab	11.16. 7.12.7	2286238	1547	May 29
11 Manik	15 Ceh	11.18. 0.16.7	2298198	1580	Feb. 25
11 Manik	10 Mol	11.19.14. 2.7	2310158	1612	Nov. 23
11 Manik	5 Zotz	12. 1. 7. 6.7	2322118	1645	Ago. 21
11 Manik	5 Cumkú	12. 3. 0.10.7	2334078	1678	May 20
11 Manik	0 Kankin	12. 4.13.14.7	2346038	1711	Feb. 17
11 Manik	15 Chen	12. 6. 7. 0.7	2357998	1743	Nov. 16
11 Manik	10 Tzec	12. 8. 0. 4.7	2369958	1776	Ago. 14
11 Manik	5 Pop	12. 9.13. 8.7	2381918	1809	May 14
11 Manik	5 Muan	12.11. 6.12.7	2393878	1842	Feb. 11
11 Manik	0 Zac	12.12.19.16.7	2405838	1874	Nov. 10
11 Manik	15 Xul	12.14.13. 2.7	2417798	1907	Ago. 10
11 Manik	10 Uo	12.16. 6. 6.7	2429758	1940	May 7

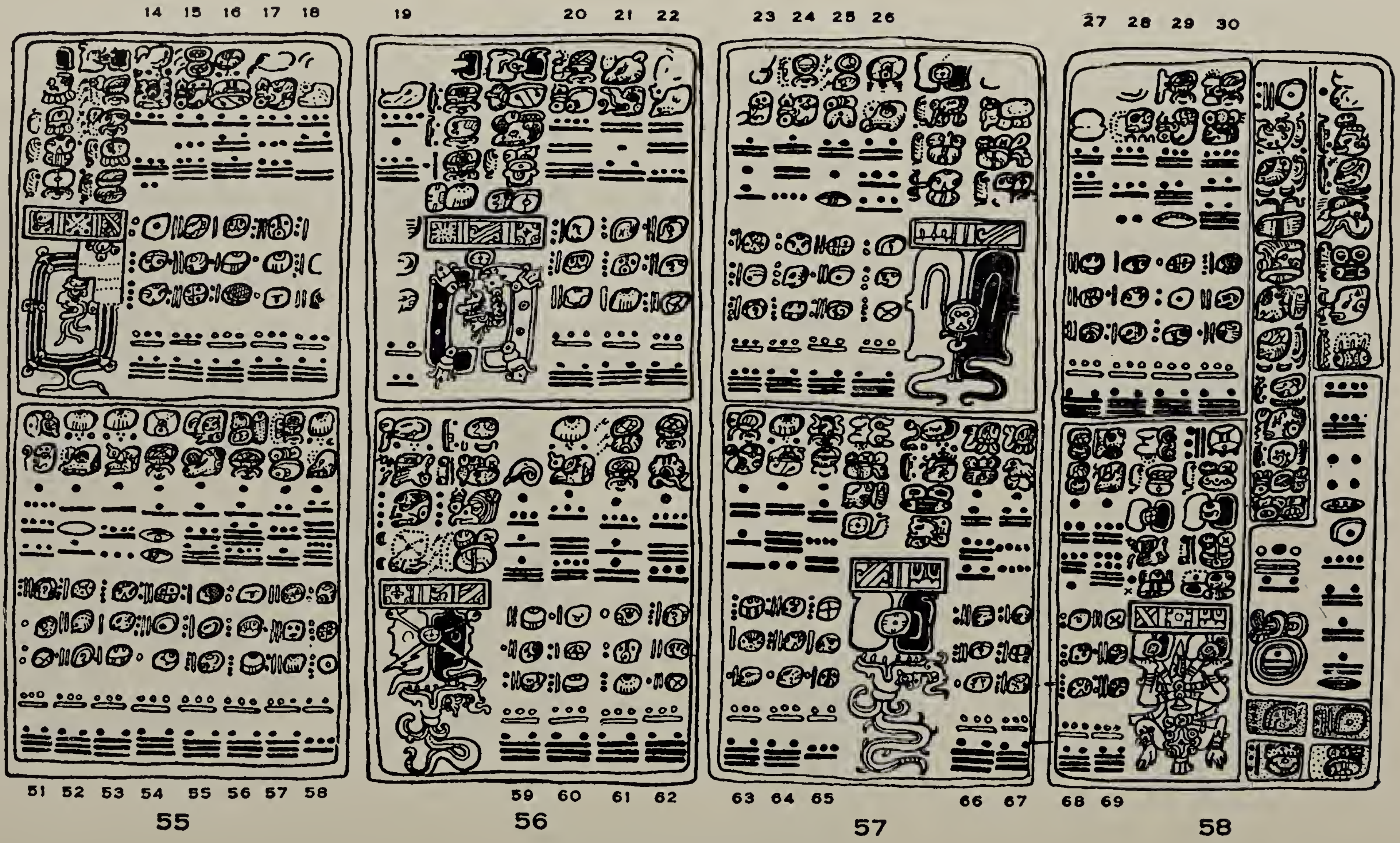
Table III
GREGORIAN CORRELATION OF THE MAYAN LUNAR AND ECLIPSE CALENDAR

Page	No.	Mayan Date		Jul. Day	Greg. Ephemeris	
	0	11 Manik	15 Xul	2417798	1907	Aug. 10
53a	1	6 Kan	12 Muan	2417975	1908	Feb. 3
	2	1 Imix	4 Xul	2418152	1908	Jun. 29
	3	6 Muluc	12 Mac	2418300	1908	Dec. 24
		Picture				
	4	1 Cimi	4 Zodz	2418477	1909	Jun. 19
	5	9 Akbal	1 Mac	2418654	1909	Dec. 13
	6	4 Ahau	13 Zip	2418831	1910	Jun. 9
54a	7	13 Edznab	11 Ceh	2419009	1910	Dec 3
	8	8 Men	3 Zip	2419186	1911	May 29
	9	3 Eb	0 Ceh	2419363	1911	Dec. 22
	10	11 Muluc	12 Uo	2419540	1912	May 17
	11	6 Cimi	9 Zac	2419717	1912	Nov. 10
	12	1 Akbal	1 Uo	2419894	1913	May 6
	13	6 Chuen	9 Chen	2420042	1913	Oct. 1
55a		Picture				
	14	2 Muluc	7 Cumkú	2420220	1914	Mar. 28
	15	10 Cimi	19 Mol	2420397	1914	Sep. 21
	16	5 Akbal	16 Kayab	2420574	1915	Mar. 17
	17	13 Ahau	8 Mol	2420751	1915	Sep. 10
	18	8 Caban	5 Kayab	2420928	1916	Mar. 5
56a	19	13 Chicchan	8 Xul	2421076	1916	Jul. 31
		Picture				
	20	8 Ik	5 Muan	2421253	1917	Jan. 24
	21	3 Cauac	17 Tzec	2421430	1917	Jul. 20
	22	11 Cib	14 Kankin	2421607	1918	Jan. 13
	23	7 Ix	7 Tzec	2421784	1918	Jun. 9
	24	2 Chuen	4 Kankin	2421961	1919	Jan. 2
	25	10 Lamat	16 Zodz	2422138	1919	Jun. 28
	26	2 Cib	11 Ceh	2422286	1919	Nov. 23
		Picture				
58a	27	10 Ben	16 Uo	2422463	1920	May 18
	28	5 Oc	13 Zac	2422640	1920	Nov. 11
	29	1 Lamat	6 Uo	2422818	1921	May 8
	30	9 Chicchan	13 Zac	2422995	1921	Nov. 1
51b	31	4 Ik	15 Pop	2423172	1922	Apr. 27
	32	12 Cauac	12 Yax	2423349	1922	Oct. 21
	33	7 Cib	4 Pop	2423526	1923	Apr. 16
	34	2 Ben	2 Yax	2423703	1923	Oct. 10
	35	10 Oc	18 Cumkú	2423880	1924	Apr. 4
	36	2 Edznab	1 Mol	2424028	1924	Aug. 30
		Picture				
	37	11 Cib	19 Pax	2424206	1925	Feb. 24
	38	6 Ben	11 Yaxkin	2424383	1925	Aug. 20
	39	1 Oc	8 Pax	2424560	1926	Feb. 13
	40	9 Manik	0 Yaxkin	2424737	1926	Aug. 9
53b	41	4 Kan	17 Muan	2424914	1927	Feb. 2
	42	9 Eb	0 Tzec	2425062	1927	Jun. 30
		Picture				
	43	4 Muluc	17 Mac	2425239	1927	Dec. 24
	44	12 Cimi	9 Zotz	2425416	1928	Jun. 18
	45	7 Akbal	6 Mac	2425593	1928	Dec. 12

Merida, Yucatan
Mexico


3
4
5
6
7.
8
9
10
11
12
13
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

PAGES 51 TO 54, DRESDEN CODEX


14 15 16 17 18
19
20 21 22
23 24 25 26
27 28 29 30
51 52 53 54 55 56 57 58
59 60 61 62
63 64 65
66 67
68 69
55
56
57
58

PAGES 55 TO 58, DRESDEN CODEX

MAYA AND TOLTEC FIGURES AT CHICHEN ITZA

By Alfred M. Tozzer

WITH a fairly complete knowledge of the content of the chronological side of the hieroglyphic inscriptions and with some acquaintance with the development of Maya art, it is perhaps surprising that so little attention has been given to the interpretation of the scenes portrayed on the sculptures, bas-reliefs, and paintings of the Maya area.

The greater part of this material is undoubtedly religious,—symbolical representations of gods, priests, and the attendant ceremonials. A smaller but no less significant number of carvings are probably historical. The religious and the historical are often combined as on some of the stelae at Naranjo and the famous Stela 12 at Piedras Negras which shows chieftains with their bound prisoners.

Limiting this present investigation to the historical side and to a single site, we find at Chichen Itza some evidence of the representations of actual events which seem to accord with our knowledge of the later period of the history of this site as known to us from the ancient chronicles.

Chichen Itza was occupied during the First Empire as shown by a single stone lintel with its date, 619 A. D. No building or other remains have yet been identified with this early period. Of the structures now standing it has long been possible by means of artistic and architectural criteria to differentiate those belonging to the Second Empire from those built after the conquest of Chichen and other cities by Mexican troops, the Toltecs, under the leadership of Quetzalcouatl at the end of the twelfth century.[1]

With the exception of the mosaic façade decoration, a small number of hieroglyphic inscriptions on lintels and in other places, together with a single figure in bas-relief, all of the numberless figures and designs on the carved stones now known at Chichen date from the Toltec period. This is also true of the fresco painting even when it is found on a true Maya building.

In view of the historical accounts of the taking of Chichen by the Mexicans it is to be expected that these events would be found depicted on the frescoes and bas-reliefs on the buildings erected during the Toltec occupation of the site.

The actual contests between the Mexicans and the Maya seem to be shown on frescoes of the Jaguar Temple. The walls of both the outer and inner rooms were once covered with paintings. A few shields alone remain to show the character of the figures in the outer room. Those on the walls of the inner chamber, although very badly damaged, both by time and by man, can still yield valuable results after a careful study. On the southern half of the western wall there is a spirited battle scene; a Maya village is being attacked by troops led by chieftains associated with the feathered serpent, the symbol of Quetzalcouatl.[2] There is no reason to doubt that those defending the village are Maya and the attacking party Mexicans. At least one of the shields carried by a Toltec chief is similar in every respect to the shields forming a part of the band around the façades of this building. These are decorated with crescent forms.[3] The same type of shield is also shown in the *Lienzo de Tlaxcala* as well as upon pottery forms from the Toltec centers in the Valley of Mexico. Several of the Mexicans have a round shield-like device on the back. This is called by Seler the dorsal mirror (*tezcacuitlapilli*[4]) and appears as a Toltec feature in the bas-reliefs of the lower chamber of the same temple, on the figures on the pilasters of the door of the painted chamber itself, and on several of the atlantean altar supports. One of the Mexican chiefs in the fresco has a conventionalized bird design which is typical of the Toltec.

---

[1] For brief outline of Toltec history, see Tozzer, 1927.

Other parts of the fresco continue the story of the Mexican campaigns. On the southern wall scaling ladders and platforms are used in the capture of a pyramid or a village on a hill. The sacking of a fortified town is shown on the southern half of the western wall with captives and an attack on the women.

The paintings are not confined to secular scenes alone. In two different places human sacrifice is shown with its attendant rites. It is perhaps possible to say that the victims were Maya. Sun-disks and other symbolic signs occur and there are trees drawn in the Mexican manner.

There seems to be little doubt but what the erection of the building and the fresco paintings were more or less contemporaneous. This is not the case with the fresco in the Monjas. Here we have an edifice, a great part of which was erected in the pre-Toltec period, with a painting clearly dating from the time of the Mexican occupation showing the burning of a Maya building. This would indicate that the invaders made use of a structure already in existence on their arrival.

Another indication of the successful conquest of the Toltec on the one hand and the defeat of the Maya on the other is the attitude of the latter as shown in the frescoes and bas-reliefs. Villagutierre and Cogolludo, in speaking of the later Itza in their southern home in Peten, after they had been conquered by the Spaniards, write that the Itza greeted the Spanish priests, as was their custom, with the right hand over the shoulder as a sign of peace and friendship.[5]

This sign of resignation to an unhappy fate is shown in many places. In the Jaguar Temple, below the paintings of the first battle scene we have mentioned there are two lines of figures seated before houses with rounded roofs, probably a Mexican prototype, and in contrast with the more typical Maya houses at the top of the painting. In this line of figures there are several groups, the center of each being a warrior usually associated with a feathered serpent. Around or before these Toltec chieftains are the conquered Maya, several of whom are shown with one arm on the shoulder in the position noted by the early writers (Fig. 1).

---

[2] Totten (1926, Pl. 51) shows this part of the fresco.

[3] The civilian to the right of the Altar in the bas-relief of the Lower Chamber of this same building probably has the same type of shield as a local or tribal designation above his head.

[4] Seler, 1915, p. 275.

[5] Seler, 1915, p. 328–29, and Villagutierre (Lib. 2, Cap. 2) who writes, ''Luego que llegaron saludaron los dos Capitanes [Itaex], à los dos Religiosos, à su usança (que es, echar el braço derecho sobre el ombro, en señal de Paz, y Amistad).''

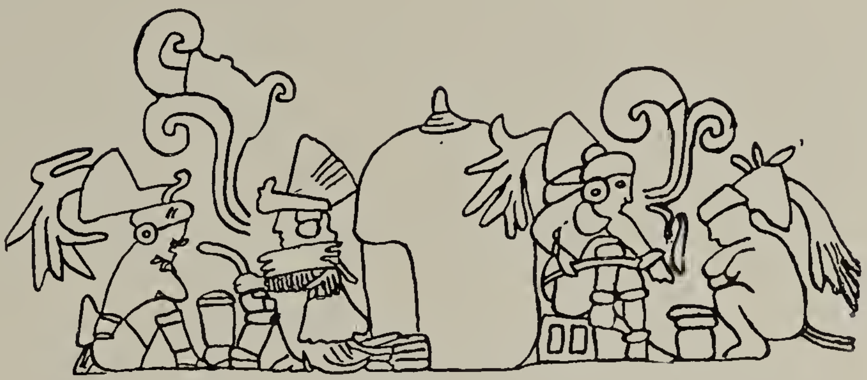


FIG. 1—PORTION OF FRESCO, JAGUAR TEMPLE, CHICHEN ITZA

In another structure belonging to the same group of buildings as the Jaguar Temple, the North Building of the Ball Court, there is an extensive bas-relief where Toltec and Maya appear. A figure on the western wall, evidently a Maya on account of his elaborate bead necklace, has his right arm on his left shoulder as an act of resignation before his captors.[6] The same gesture of peace is noted on several of the figures on pilasters of a building (Maudslay's No. 26) adjacent to the Temple of the Little Tables.

A scene strikingly similar to the one on the frescoes is found on a stone lately discovered by the Mexican Government officials before the Caracol and now in the Merida Museum (Fig. 2). Several of the figures wear leggings and long nose-beads which seem to identify them as Maya and two of them, in the upper row, show the gesture of peace.

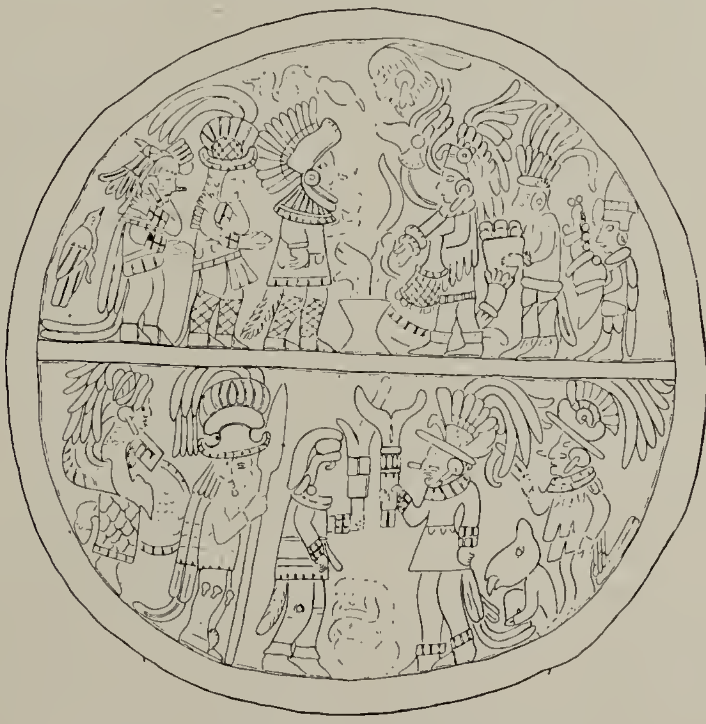


FIG. 2—CARACOL STONE, CHICHEN ITZA

One of the stelae from Kabah seen and figured by Stephens and brought by him to America and now in the American Museum of Natural History shows, in this case, a Maya as the captor standing before a kneeling captive who has his right arm on his left shoulder, probably the same sign of defeat.[7] Kabah is a purely Maya city and probably dates from long before the time when the Mexicans arrived in Yucatan as victorious warriors.

---

[6] Breton, 1917, Pl. iv.

It is probable that this gesture of peace or adoration dates from the First Empire and seems to indicate submission to a chief and also to a priest or god. There are numerous examples of it in several of the sites on the Usumacinta River. At Yaxchilan, on Stela 11, three figures kneel before a god or priest, each with his right arm on his left shoulder.[8] On the famous Chama vase a meeting between two rival factions is shown and one man in each group has his right arm on his left shoulder.[9]

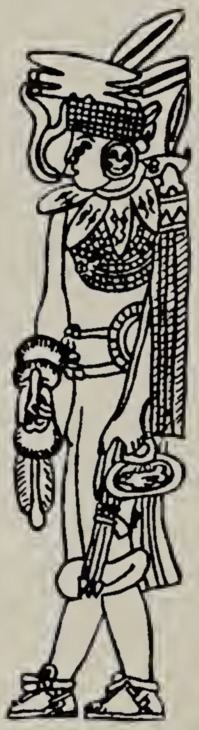


FIG. 3—TYPICAL TOLTEC WARRIOR ON DOOR JAMB, JAGUAR TEMPLE, CHICHEN ITZA.

Leaving the actual battle scenes and the signs of peace, it is possible to identify with certainty the Toltec and Maya figures occurring in other connections. The typical Mexican appears again and again on the pilasters of the Jaguar Temple[10] (Fig. 3). He wears a mosaic crown-like headdress often with a point in front; he has a breast ornament, probably also of mosaic. He carries a bundle of spears together with a bag in his left hand and in his right an *atlatl* or spear-thrower. His left arm is protected by padding or a kind of shield; he wears a "back shield" or "dorsal mirror" fastened around his waist; decorated garters, band below the knee, and sandals. There are a few very distinguishing features. He usually wears either on his headdress or as part of his breast ornament a highly conventionalized bird design, also seen on the Chac Mool figures and on the atlantean statues. The original of this sign was probably of wood with a mosaic design. Above the head of each Toltec is a sign showing by means of a picture in the Mexican style his tribe, his town or his name.

Finally, to designate the Mexican warrior, there is a button on each side of the nose in contrast with the long bead worn by the Maya through the septum of the nose. These nose-buttons are common on the atlantean supports of altars at Chichen and Le Plongeon's Chac Mool has the same feature. These seem to be Mexican in origin and are seen in the Florentine manuscript and in the Codex Borbonicus. In many places in the Zapotecan codices the operation of inserting these buttons is pictured.[11]

In several cases these nose-buttons appear only on the left side of the nose, as on the pilasters of the Painted Chamber of the Jaguar Temple. In other instances the attachment on each side appears as a double disk with a string passing through the nose in two places and joining the two pieces (Fig. 3). In still other places there seems to be a pendant hanging below the nose and evidently suspended from the buttons.

---

[7] Stephens, 1843, vol. 1, p. 412. See also Spinden, 1920.

[8] See also Yaxchilan, Stelae 10, 19, Piedras Negras, Stelae 12, 26, and Lintels 1, 2, 4, and La Mar, Stela 1, in Maler, 1901–03.

[9] Dieseldorff, 1894.

[10] For illustrations of bas-reliefs of this building, see Maudslay, 1889–1900, v. 3, pls. 32–51, and Totten, 1926, pl. 50.

[11] See Cooper-Clark, 1912, Pl. G. Seler (1915, p. 274) thinks these ornaments are intended to represent the sign of the soul of a dead warrior dwelling in heaven.

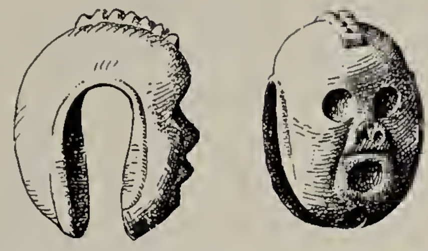


FIG. 4.—JADE NOSE OR CHEEK BUTTON, CENOTE OF SACRIFICE, CHICHEN ITZA.

In the collection from the Cenote of Sacrifice there are several jade pieces which may possibly be identified as these buttons (Fig. 4). They consist of beads with a part cut away so that they might be inserted into an incision in the side of the nose or possibly in the cheek. In a few cases faces are found upon these jades. Every one has a small hole on one side near the bottom. These might serve for the attachment of the secondary button or disk already mentioned or for the suspension of a bead hanging below the nose.

There is a very impressive bas-relief, the most extensive in the whole Maya area, in the Lower Chamber of the Jaguar Temple consisting of five lines of warriors and civilians converging toward a rite in behalf of a feathered serpent before a low altar. A marked contrast is noted between the figures in the four upper zones and those in the lowest one. Little doubt exists but what we have Toltec represented in the first group (Fig. 5). With the exception of four figures in Row B, evidently civilians, they are all warriors and are dressed in general exactly as the typical Toltec already described, having the *atlatl,* the spears, the padded left arm, the ''back shield,'' the knee decoration, an anklet in addition to sandals and the nose-button is usually present. With but few exceptions each of the thirty-six intact figures in the first four rows has the conventionalized bird-form upon the breast, on the headdress, or upon both breast and headdress. Where this is lacking, in most cases, the sign is replaced by a realistic bird, head pointed downward, upon the head ornament or hat.

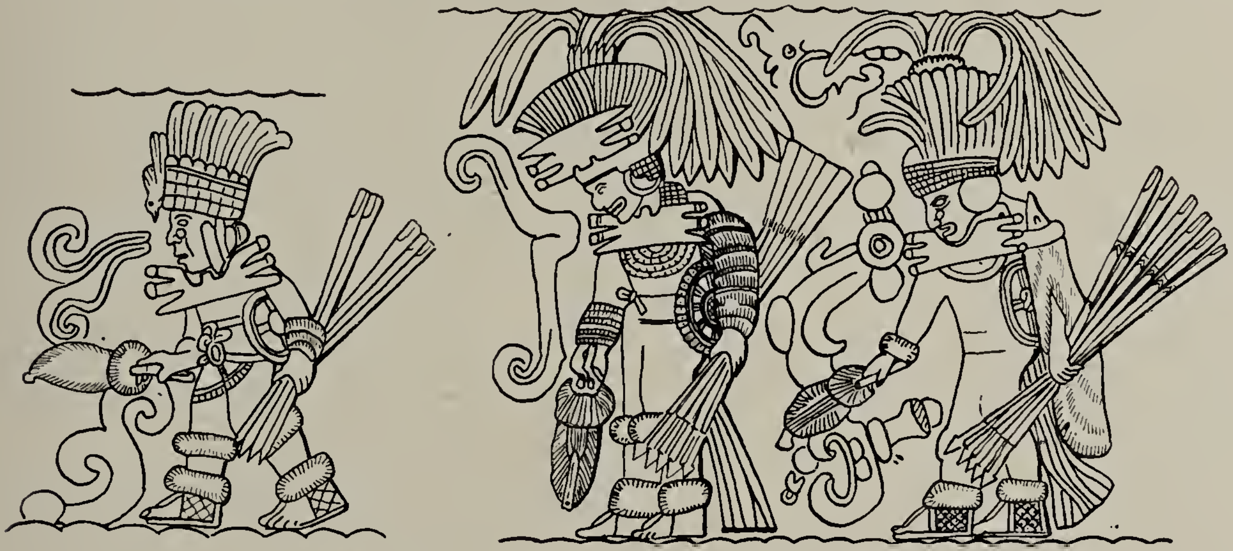


FIG. 5—TOLTEC WARRIORS, LOWER CHAMBER, JAGUAR TEMPLE, CHICHEN ITZA

The name or tribal sign has already been mentioned in connection with the Toltec figures on the pilasters. In the Mexican section of this bas-relief on the Lower Chamber the name sign is found on ten of the men. It is probably significant that no warrior who has the bird on the headdress or as a breast ornament has a name sign; whereas on the ten figures where the bird is missing the name sign is found. One may suppose that the greater number of warriors are local chieftains who have had a part in the capture of Chichen and did not need any designation; whereas the ten figures two of whom are civilians, who have the name sign are Mexicans from a distance who are attending the rites in behalf of the newly-introduced god, Quetzalcouatl.

Coming to the lowest row of warriors whom we identify as Maya, the contrast is very great indeed (Fig. 6).[12] Here the weapons are entirely different, the *atlatl* and spears being replaced by a stone-pointed or barbed spear; three men also carry stone knives as well. Of the twenty-three figures eleven of them are protected by a thick flexible shield draped over the arm, five have round shields in the hand. All wear leggings. Masks, often mosaic in character, and very elaborate headdresses are common and nose-buttons give way to a long tubular bead through the septum of the nose. Elaborate jade necklaces with pendants also occur. Name signs are associated with most of the figures. This Mexican device was very probably carried out in connection with these Toltec captives.

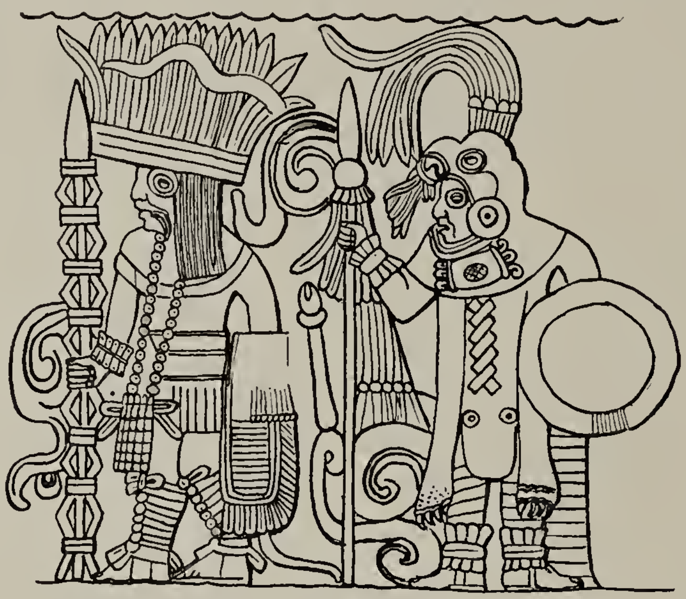


Fig. 6—MAYA WARRIORS, LOWER CHAMBER, JAGUAR TEMPLE, CHICHEN ITZA

If we seek for parallels for the dress and accouterments of the figures in the lowest rows in the designs from purely Maya sculpture and bas-relief we find some very striking confirmations of the thesis that these Chichen figures are Maya. It is interesting to note that these parallels all come from sites far to the south and identified with the First Empire.[13]

The stone-pointed spear decorated with feathers occurs at least three times at Piedras Negras (Stelae 34, 35, Lintel 2), at Yaxchilan (Stela 10), and at Naranjo (Stela 21). The barbed spear is found at Seibal (Stela 1). The stone-pointed spear with trellis-work handle, seen in Row A (Fig. 6), has an absolute parallel at Itsimte Sacluc (Stela 1). Naranjo (Stela 8) probably shows the same type of spear. The flexible shield is found in many places, among them being Piedras Negras (Lintel 2, Stela 35) and Yaxchilan (Stela 10). The round shield occurs at Naranjo (Stelae 11, 19, 21) and on the wooden lintel at Tikal. The bag carried by the figure in Row A, 3, is identical with the bag shown at

---

[12] In addition to the figures in the first or lowest zone there should probably be added Fig. 11 of Maudslay in Row B, possibly No. 14 in the same row. Both of these are evidently civilians.

[13] For comparisons noted, see Maler, 1901–1903.

Naranjo (Stela 30). The arrangement of the hair in Figure A, 22, is exactly similar to that shown on some of the stelae at Seibal. The stone knife, the nose plug composed of a long bead set in the septum, the masks, the elaborate headdresses are all associated with the Maya of the First Empire and add strength to this identification.

If this explanation of the bas-relief is correct we find here a representation of Toltec warriors who have come to do honor to their god, Quetzalcouatl-Kukulcan. The design of the four upper zones is a unit centering in the idol of the god and its altar. Each Toltec has his bird insignia or, in a few cases where this is missing, a name sign.

Below this rite is the single line of Maya, each with his name designation and easily distinguished from those above by the dress and accouterments. It may be that we have here a rite in celebration of peace between the victorious Toltec and the vanquished Maya.

Among the scenes in the elaborate bas-relief of the North Temple of the Ball Court Group there seems to be a conference between the Mexicans and the Maya, as several of the figures are seated. The Toltec are clearly indicated by their dress and weapons, already discussed, while the Maya are rather less clearly defined. Several show the long tubular bead in the nose and elaborate necklaces with pendants which are so typical of the Maya dress of the First Empire and are never found on the figures we have identified as Toltec.

In a design around the base of one of the mounds to the east of the Ball Court, there is a single line of figures consisting of alternating captors holding their captives by the hair. This is a Mexican arrangement and shows a very close analogy with the design around the Stone of Tizoc found at Tenochtitlan.

Several interesting Toltec warriors appear on some of the stones of Mausoleum II. The *atlatl* and spears, the conventionalized bird ornament, the padded left arm, and, in one case, the nose-button are all Mexican characteristics.[14]

In the Temple of the Warriors and its surrounding courts, lately excavated and repaired by the Carnegie Institution, there is again some material which may show the events of history. From the preliminary reports, I have been able to assemble some tentative data on the designs of the columns. The Warrior Temple itself and the concealed building within its sub-structure, called the Chac Mool Temple, both clearly show pure Toltec figures with *atlatls,* the padded left arm, the bird on the headdress, feather rings on the ankles and below the knees, and other features which are identified as Mexican.[15]

In the Northwest Colonnade which forms the entrance to the Warrior Temple there are fifty-nine sculptured columns. Here there is a mingling of Toltec and Maya figures. In the Carnegie Year Book for 1927 (p. 246–47) we read:—

> "The middle rows (of columns) are carved with representations of unarmed men whose hands are tightly tied by ropes encircling their wrists. Since their costumes and ornaments are as elaborate and sophisticated as those of the other figures, they probably represent prisoners of high rank, chiefs and noted warriors, while the figures of the first type on the adjacent columns would appear to be their conquerors."

---

[14] Seler, 1915, p. 365, Figs. 237–239.

[15] Bunker, 1927.

If our interpretation is correct we have here still another representation of the Toltec victors but the conquered Maya are shown this time as prisoners rather than as sharing in the celebration of a Mexican rite as at the Lower Chamber of the Jaguar Temple.

In the Northwest Colonnade which has no structural connection with the Temple of the Warriors the situation changes again. The columnar figures are exclusively Maya with the stone-pointed spear, the long nose-bead, the flexible shield, leggings, elaborate necklaces and other Maya characteristics.[16] Doctor Vaillant has shown, from the study of the ceramics, a late re-occupation of Chichen by the Maya in post-Toltec times and it is possible that the Northeast Colonnade dates from this period when the Maya were again overlords of the city.

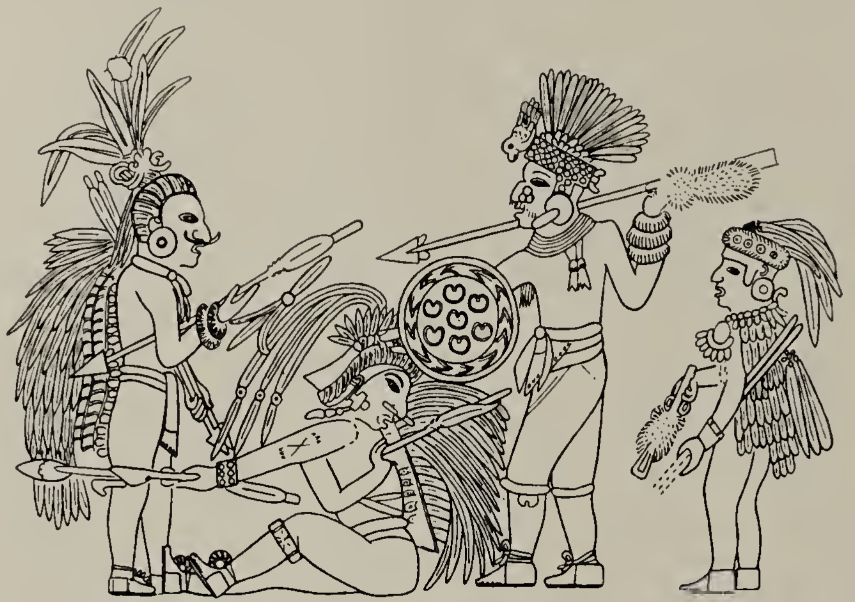


FIG. 7—CENTER DESIGN ON PLAQUE NO. 1, FROM CENOTE OF SACRIFICE, CHICHEN ITZA

The final and perhaps the most significant source of the data on this historical problem is to be found on the badly damaged gold disks dredged from the Cenote of Sacrifice. These plaques are very extraordinary examples of late Maya-Toltec workmanship and are strikingly unlike the greater part of the other metal objects from the Cenote which are, for the most part, foreign to the Maya region, being importations from southern Central America. It is highly probable that metal objects in the form of bells and amulets which found their way to Chichen from the south were, in some cases, melted up and made into these plaques.

There is, on the central part of the designs, the sharpest contrast between the defeated Maya and their Toltec conquerors. The difference in physical type is very pronounced; the sloping forehead of the artificially deformed head and the large prominent nose of the Maya so clearly brought out in the sculptures of the Old Empire, especially at Palenque, are contrasted with the undeformed head of the Toltec. The type with sloping forehead also appears on several of the carved jade tablets in the Cenote collection which date back to the First Empire. Several of the skulls actually dredged from the Cenote have the same artificial frontal deformation.

In examining the actual scenes on these plaques the subject of the conquest again appears. On Disk 1 (Fig. 7) the successful Toltec is throwing his spear with the *atlatl;* he wears a mosaic headband with the bird in front and nose-buttons. His shield with the crescent design is similar to that of the warrior on the fresco and also to those on the band around the outside of the Jaguar Temple. Before him are two Maya, one of whom has been transfixed by a spear. Each has an elaborate headdress and a long bead in the septum of his nose. The retreating forehead is in contrast with the undeformed heads of the two Toltec.

---

[16] Ricketson, 1927.

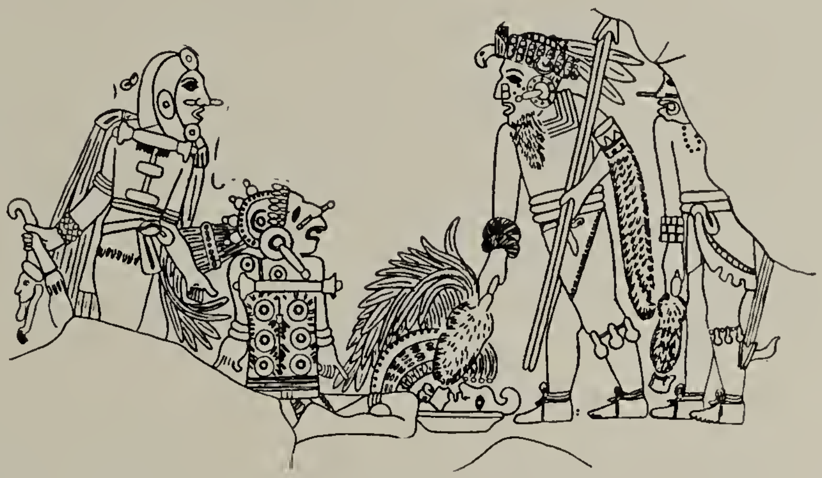


Fig. 8—center design on plaque no. 2, from cenote of sacrifice, chichen itza

On Disk 2 (Fig. 8) the warrior of the Toltec is similarly shown, the *atlatl,* the bird on the headdress, the shield or padding on the arm which shows here as hanging from the shoulder, the nose-buttons, and the beard, which is a fairly common feature of the Toltec at Chichen Itza. The two Maya appearing as suppliants before the Mexican have the deformed frontal, the bead in the nose, and the composite breast ornament composed of several pieces of jade. On a vessel between the two groups is the head of the victim, evidently a Maya, with an elaborate headdress behind.

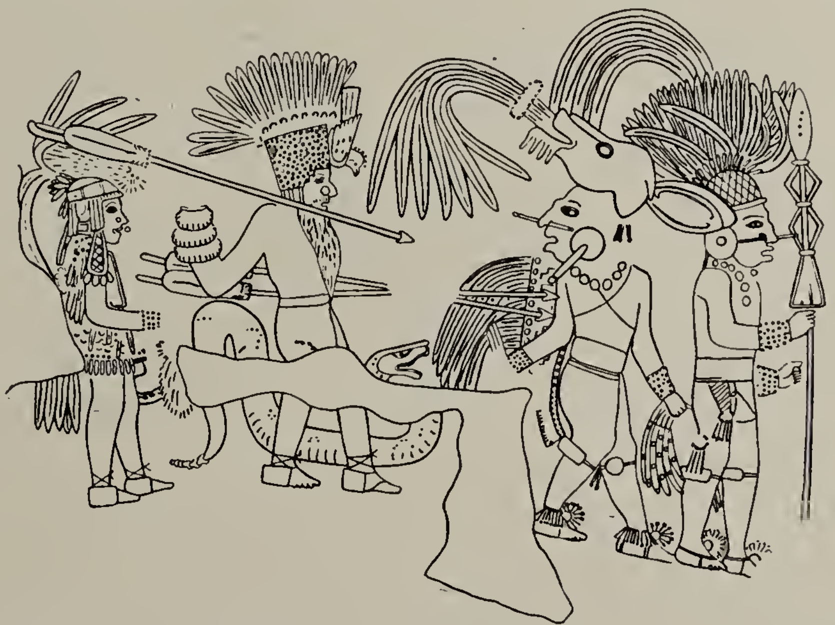


Fig. 9—center design on plaque no. 3, from cenote of sacrifice, chichen itza

On Disk 3 (Fig. 9) the two Maya are unmistakable with their long nose-beads, deformed heads, and prominent noses, the complicated headdresses, and the spear carried by one of them. The attitude of protest of the one receiving the spears of the victors is striking. The Mexican has a mosaic headdress with the bird, the nose-button, and beard, and he carries spears and *atlatl.*

The historical background of all the scenes I have mentioned seems evident. Tentatively one may say that the frescoes of the Jaguar Temple show the actual conquest above and below, the acceptance of peace, the resignation of the Maya by the sign of placing the hand on the shoulder. The bas-relief on the North Temple of the Ball Court continues the story with the meeting between the former enemies to conclude peace and on the Lower Chamber of the Jaguar Temple the actual celebration of the victory with the rite before Quetzalcouatl, the god of the victors.

The Warrior Temple may show, retrospectively perhaps, as this building has a decadent style and is undoubtedly later than the Ball Court Group, a pure Toltec structure approached through a colonnade recounting the Maya subjugation. Finally there stands the purely Maya designed Northeast Colonnade which may be a structure contemporaneous with the final Maya re-occupation of Chichen in post-Toltec times, perhaps as late as the middle of the fourteenth century.

Aztec sculptures often commemorate definite historical events and here we have found that some of these of the late Maya-Toltec period at Chichen seem also to allow an historical interpretation which is in accord with what we know from the ancient Maya Chronicles, the Books of Chilam Balam. Finally, those sculptures of earlier times, the First and Second Empire of the Maya, may on future study help us to unravel the story of the actual historical events of the early Maya peoples.

BIBLIOGRAPHY

BRETON, ADELA C. Preliminary study of the North Building (Chamber C), Great Ball Court, Chichén Itzá, Yucatan. *Proceedings, XIX International Congress of Americanists,* 1915, pp. 187–194, Washington, 1917.

BUNKER, FRANK F. The Art of the Mayas as revealed by Excavations at the Temple of the Warriors, Chichén Itzá, Yucatan. *Art and Archaeology,* vol. 23, 1927, pp. 3–10.

CLARK, J. COOPER. The Story of "8 Deer" in the Codex Colombino. London, 1912.

DIESELDORFF, E. P. Ein bemaltes Thongefäss mit figurlichen Darstellungen aus einem Grabe von Chama, *Zeitschrift für Ethnologie,* vol. 26, 1894, pp. 372–377.

MALER, TEOBERT. Researches in the Central Portion of the Usumatsintla Valley. *Memoirs, Peabody Museum,* vol. 2, Cambridge, 1901–1903.

MAUDSLAY, ALFRED P. Biologia Centrali-Americana: Archaeology. London, 1889–1902.

RICKETSON, EDITH BAYLES. Sixteen carved Panels from Chichén Itzá. *Art and Archaeology,* vol. 23, 1927, pp. 11–15.

SELER, EDUARD. Die Ruinen von Chichén Itzá in Yucatan. *Gesammelte Abhandlungen,* vol. 5, 1915, pp. 197–388.

SPINDEN, HERBERT J. The Stephens Sculptures from Yucatan. *Natural History,* vol. 20, pp. 379–389, New York, 1920.

STEPHENS, JOHN L. *Incidents of Travel in Yucatan.* New York, 1843.

TOTTEN, GEORGE O. *Maya Architecture.* Washington, 1926.

TOZZER, ALFRED M. Time and American Archaeology. *Natural History,* vol. 27, pp. 210–221, New York, 1927.

HARVARD UNIVERSITY,
CAMBRIDGE, MASSACHUSETTS.

PRELIMINARY NOTES ON TWO IMPORTANT MAYA FINDS

By Frans Blom

IN this short paper it is my aim to report on two of the many interesting findings made during the recent explorations of the John Geddings Gray Memorial Expedition to Middle America, conducted by the Tulane University of Louisiana. The expedition takes its name from the late Mr. John Geddings Gray, civil engineer and pioneer in western Louisiana. He was a man of wide reading and always followed explorations in distant parts of the world with the greatest interest, wherefore his children thought it more appropriate to equip a scientific expedition as a memorial to him than to erect a building or monument.

As the Gray Memorial Expedition only returned from the field a month ago there has not been sufficient time to make a careful study of its results. Therefore this paper should not be considered a final discussion of its subject, but merely a preliminary report on two highly important findings.

Maya Textiles

We have long known that the ancient Mayas were very skilful weavers. On many of their monuments we see the principal figures clad in elaborate costumes of feathers and cloth. In many cases the design of the weaving is shown by minutely engraved lines in the surface of the stone, as is the case with some of the monuments at Piedras Negras and Yaxchilan. Up to the present day we have only known of a few charred scraps of Maya textiles from the sacred Cenote at Chichén Itzá. These are preserved partly at the Peabody Museum, Harvard University, and partly at the Museo de Arquelogia de Yucatan, in Merida.

When, therefore, in February of this year, a citizen of Comitan, Chiapas, told me that he, about two years ago, had found a large piece of ancient textile in a cave, I frankly doubted his statement. The greater part of the Maya area is composed of limestone rock, through which water percolates with great ease. It is, therefore, rare to find anything but pottery fragments and stone implements in the caves of the area, and our informant's tale sounded almost incredible.

Don Augusto Gordillo and his two friends, the Escandon brothers of the Cieneguilla Ranch, are very fond of hunting bees. On one of their excursions they noted the entrance to a bee-hive on the side of a limestone cliff about ten meters above ground. Scaling the wall with some difficulty they found, to their surprise, that an opening in the cliff wall about 75 cm. in diameter, had been sealed up with stones and mortar. The entrance to the bee-hive was through a small hole in this wall. They tore out the stones and behind them they found a cavity filled with ancient pots wich were covered with a sheet of cloth. After having collected the honey, they investigated the pots, many of which were intact. Some of these they threw out, and they fell to the ground, breaking in many bits.

Others they took to their houses where they used them for water jars and eventually broke them. All the pots were filled with charred human bones and most of them were joined together in pairs, mouth to mouth, and between their openings lay a circular clay disk. The openings were sealed to the disk with resinous gum and pots were always in pairs of one large and one small.

Don Augusto and his friends each carried home a large piece of cloth, which later disappeared entirely. This was the tale of our informant and it sounded so important that we immediately set out to investigate.

Traveling in an easterly direction from Comitan we slept at the Finca Huncana[1] and continued the following day to Cieneguilla, the ranch of the Escandon brothers which lies on the edge of the Tierra Caliente.[2]

About noon we stopped and commenced searching for the cave among the cliffs to the right of the trail, without any result. Then, after having called in the aid of the Escandon brothers, we at last located the cliff with the cave. At its foot lay small heaps of charred bones and sherds of several pots, as well as a couple of circular clay disks, to which adhered lumps of rosin and bits of charred human bones. These were the pots which had been thrown out of the cavity when our friends were searching for the bees.

Climbing up the side of the cliffs with some difficulty, I reached the cave, and immediately noticed some parts of the wall of stone and mortar of which Don Augusto had told. Sticking my head inside the mouth of the cavity, I saw that it was formed like a large globe and that its walls had a hard shiny glaze of crystalline limestone, through which no water could penetrate. The floor of the cavity was covered with fine and very dry dust and it was evident that a squirrel had made a nest here after the entrance had been forced open by the bee hunters. Shifting the dust with my hands I found several potsherds on which were designs and colors, also a few more circular clay disks, and some lumps of resinous gum, and then, at last, deep in the fine dust I came upon a small piece of excellently preserved white cotton cloth. A further investigation brought some more fragments of cloth to light.

Among these fragments we found two different kinds of weaving. The cloth is plain white without any coloring or design, woven out of cotton, and so well preserved that it will stand hard pulling. Two different types of weaves were found, the one having three wefts together, and the other two, the weft being finer and thinner than the warp. On some of the fragments the original edge is preserved and two pieces are sewn together with long stitches. Unfortunately none of the pieces have colors or designs, but none the less the finding of these textiles is unusual and their preservation is only due to the protected location in which they were found.

I have gone into some detail giving both the reports by Señor Gordilla and describing the find in order to show that I was able to check every detail of his statement. No dated object was found with the textiles, but judging from the design on the pottery I am certain that they must date from the later part of the Old Empire Period. The conditions under which these weavings were preserved were such that I am positive that they must date from some time before the Conquest.

---

[1] Huncana, see *Tribes and Temples. A record of the expedition to Middle America conducted by the Tulane University of Louisiana in 1925* (F. Blom, O. LaFarge), 1926, vol. 2, p. 429.

[2] The valley of the Rio Grande de Chiapas, which runs from southeast to northwest through the entire state of Chiapas, is generally called Tierra Caliente.

MAYA BALL COURTS

When discussing the Mexican influence in northern Yucatan, it has always been held that the existence of ball courts in Chichén Itzá and Uxmal were important features to prove this influence, just as much as the existence of serpent columns, etc. Says one authority on this subject, ''No other city of this region (referring to Chichén Itzá) has so many of these intrusive features. An instance is the Great Ball Court with its connective temples. The ball court is found in many Mexican cities where it had a strong religious significance, but it is absent from any of the great Mayan cities, with the exception of Chichén Itzá and Uxmal.'' Another author says: ''No tlaxtli courts have been discovered in this area of the old empire and the three or four that occur in Yucatan are sculptured in Mexican style, especially the very fine one at Chichén Itzá. We can, therefore, safely conclude that the ball game was not played by the early Mayas, but was introduced by the Mexicans not long before the arrival of the Spaniards. This assumption is further supported by the elaborateness of the court at Chichén Itzá which is known to have been especially under Mexican influence.''

The ball game of Middle America was played in a court shaped like a capital I. The game was called *Tlachtli* by the Mexicans and according to Seler *Hom* in Maya.[3]

As the ball court at Chichén Itzá is well known I will use it as a standard type of a late ball court. Two high vertical walls run along either side of the long arm of the I. Low walls enclosed the ends of the court. In the attached figure (Fig. 1) is shown a cross-section of this ball court: *a,* are the two walls, vertical on the side which faces the court; *b,* are low platforms, running along the foot of these walls; *c,* is a small slope down to the principal floor of the court, *d.* The stone rings on either side of the court are shown at *e.*

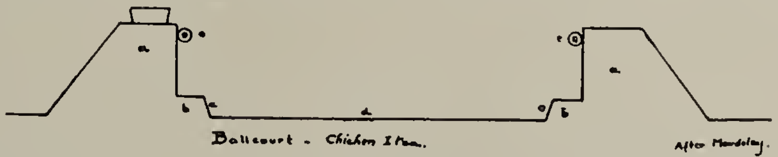


FIG. 1—CROSS-SECTION OF BALL COURT AT CHICHÉN ITZÁ, YUCATAN. (AFTER MAUDSLAY)

The ball court at Uxmal is much smaller, but otherwise identical with the first mentioned court. In these two ball courts we have the following features to remember: the I shape of the court, vertical walls in which are set stone rings, a low terrace at the foot of the vertical walls, and a stone clad slope from this low terrace down to the main floor of the court.

In Chichén Itzá are several other courts, of which two are shown on the map made by Mr. J. O. Kilmartin for the Carnegie Institution of Washington. The one lying to the east of the Group of Thousand Columns is clearly indicated as being a ball court by its form. On the other hand, the one indicated to the north of the same group back of the Temple of the Warriors can hardly be a ball court as I found vestiges of a stairway on the center of the east side of the western mound. Again an excavation of the two parallel mounds closing the southwestern corner of the great central court of the Thousand Columns may reveal this to be a *Tlachtli* court.

---

[3] Seler, Eduard, *Die Alten Ansiedelungen von Chaculá.* Berlin, 1901, p. 27.

In describing the ball court at Uxmal, Seler tells us that the low end walls now hardly can be seen. He describes the parallel main walls and also the fragments of the stone rings.

Stone rings are frequent around the present Mexico city, some are standing as decorations in the park at Coyoacan and others at Texcoco; several stone rings have landed in the Museo Nacional. I do not, though, remember ever having heard that the remains of a court are preserved anywhere in the highlands of Mexico, though I am inclined to believe that further investigation of this matter will bring some to light.

Outside the Mexico valley, we have reports of ball courts at Guiengola, near Tehuantepec[4] and several courts found by the same investigator at Uaxac Canal valley, Uaxac Canal Ventana group, and Chacula[5] Sapper found several such courts, but did not identify them at once.[6] His list of ball courts is long and they nearly all appear along or close to the Pacific Coast. For this reason it has generally been believed that these ball courts were introduced into the southern fringe of the Maya area at a late period by the Mexicans who had trading posts at Soconusco and other places along the coast.

The ball courts described and pictured by Sapper and Seler are unfortunately only shown in groundplans, but without cross-sections. These groundplans show us the capital I shape of the courts. Seler describes the ball courts found by him, and tells us the following: The I shape is distinct in nearly all cases. The two parallel walls are *not* vertical on the sides facing the court, but show a sloping surface. A low terrace runs along the foot of the side walls of the court. In no case does Seler speak of stone rings.

Reviewing the information given by these two German investigators, we have the following list of ball courts: Sacremento, Department of Mexcalapa; Bolonchac, Department of Libertad; and Rosarito, these three all located in the State of Chiapas, Mexico. In the Department of Huehuetenango, Guatemala, there are ball courts in the Uaxac Canal valley, Uaxac Canal Ventana group, Chaculá and Saculeo. In the Department Quiché ball courts were found at Kalamté, Sajcabajá, and Utatlán. Sapper also reports a court at Leon de Piedra in San Salvador, and Seler, another court at Guiengola near Tehuantepec in the State of Oaxaca, Mexico.

The Gray Memorial Expedition commenced its work at Tapachula, on the Pacific Coast of Chiapas and rode through the entire Maya area from south to north, ending at Chichén Itzá. Reaching the northern edge of the Tierra Caliente valley in Chiapas we visited a very large group of ruins, called Tenam, at the Rosario ranch.[7] The ruins are situated on the top of a hill and among the vast amount of ruined temples and mounds which we investigated were two parallel mounds which undoubtedly pertain to a ball court. Set into the floor of the alley between these two mounds we found three circular altars each about one meter in diameter. The sides of these mounds, facing the alley, were covered with carefully cut and squared blocks of limestone, fitted closely together so that they formed a smooth, sloping surface. We also found the low terrace running along the foot of the mound and this terrace likewise sloped towards the alley and was covered by carefully cut stones, forming a smooth surface.

---

[4] Seler, *ibid.*, pp. 29–30, and Fig. 15.

[5] Seler, *ibid.*, pp. 27–33, etc.

[6] Sapper, Karl, *Das Nordliche Mittel-Amerika, nebst einem Ausflug nach dem Hochland von Anahuac. Reisen und Studien aus den Jahren 1888–1895.* Braunschweig, 1897.

After a day's ride towards the northeast of the Tenam Rosario ruins we found another group of ruins, Tenam Soledad. Here again was a well-preserved ball court identical to the one found at Tenam Rosario, the only difference being the absence of a circular stone altar.

Going down the Sacchana valley one cannot help but notice a very high mountain range, on the top of which lie several large mounds. This group of ruins is called El Desconsuelo, and here again is a ball court very well preserved. The capital I shape is quite distinct, the two parallel mounds slope towards the alley, the low terraces are present and the slopes of both the parallel mounds and the low terraces are covered with carefully cut stones set close together and forming a smooth surface (Fig. 2).

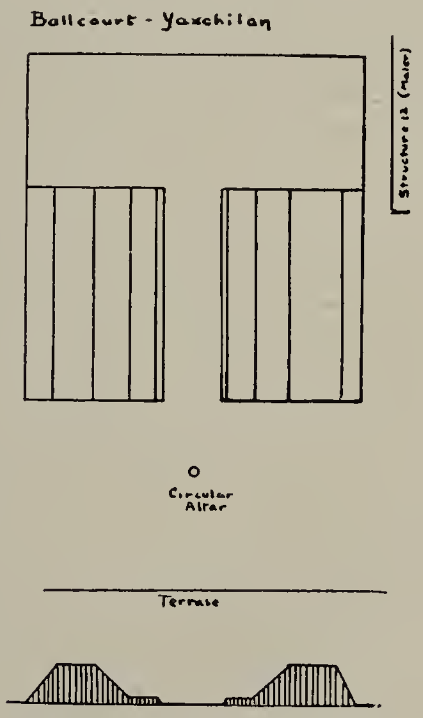


Fig. 2—GROUNDPLAN AND SECTION OF BALL COURT AT YAXCHILAN, CHIAPAS, MEXICO.

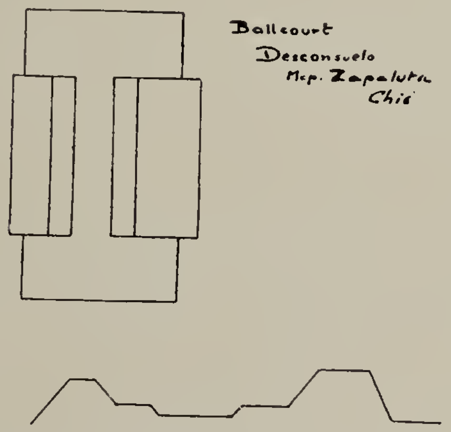


Fig. 3—GROUNDPLAN AND SECTION OF BALL COURT AT DESCONSUELO, CHIAPAS, MEXICO.

These three ball courts are all in approximately the same area as those found by Seler and Sapper. Going further towards the heart of the Old Empire region we located a ball court at the ruins between the Chapuil and Tzaconeja rivers.

The next ball court to be located was at the ruins of Tonina. When these ruins were visited by the first Tulane Expedition in 1925, we made maps of all the mounds lying close to the main group of ruins. A section of country then densely overgrown by second-growth and brambles was not investigated. Upon returning this year Don Aureo Cruz, the owner of the land on which the ruins are located, had cleared this undergrowth in order to plant coffee. In this clearing we found a well-preserved ball court, constructed as those already described, and showing one feature of particular interest. Towards the top and at the center of the two parallel mounds we found stone tenons protruding from the smooth surface of the mounds, in the place where the stone ring is located in the ball courts of Chichén Itzá and Uxmal.

---

[7] Many ruins in eastern Chiapas are called "Tenam" and to distinguish one from the other we add the name of the nearest ranch or *finca*.

On the map of the ruins of Yaxchilan made by Maler,[8] he indicates what he thinks may be a ball court. We investigated this locality and found that Maler was correct in his suspicions. The mounds which he numbered 13 and 14 are constructed exactly like the mounds of the ball courts which we previously had visited, *i.e.,* they are surfaced with cut and squared stones set carefully together. Also the low terrace is present, as well as the enclosure of one end of the capital I (Fig. 3). The opposite end does not appear to be indicated but may come to light if excavations are undertaken.

On our further journey we reached the ruins of Tikal, but due to the absolute lack of water we were not able to spend sufficient time at these great ruins to allow us to look for a ball court.

A ball court was found among a large group of mounds and completely ruined buildings located a few hours' ride to the southwest of Kashuinik, a small Maya Indian settlement in British Honduras. These ruins are situated just over the border in the Department of Peten, of Guatemala, and the place has no name.

In passing I may draw attention to two parallel mounds in Lubaantun in the southern part of British Honduras. When Merwin explored these ruins in 1914 he found three small circular altars set into the cement floor of the alley between these mounds. The altars are badly weathered, but one can distinguish two human figures on each of them, and between the figures is what looks like a ball. The general arrangement of figures and ball is much like the carving on altar number two at Cacuen, Peten, Guatemala. I am inclined to believe that excavations at Lubaantun will reveal a ball court.

Due to the scarcity of water supply and for other reasons we were compelled to traverse the territory of Quintana Roo in forced marches and therefore were not able to make more than superficial investigations of the ruins which we passed on our way. On August fifth of this year we rode into the ruin of Chichén Itzá and terminated our journey at the ball court there.

Summarizing the principal features of the ball courts in the southern area, we may state that their construction is uniformly the same. In nearly all cases we found the groundplan to be in the form of a capital I. In all cases the parallel mounds were coated with cut stones set closely together and forming a smooth surface. In all cases low terraces run along the inner side of the two parallel mounds and a small slope likewise clad with cut stones leads down to the main floor of the alley between the parallel mounds. Only at Tonina did we find stone tenons in the place where the northern ball courts have a stone ring.

---

[8] Maler, Teobert, Researches in the Central part of the Usumatsintla Valley, *Memoirs, Harvard University, Peabody Museum,* vol. 2, no. 2, pp. 77–208, Cambridge, 1903, pl. XXXIX, p. 134.

One of the features which has been held as highly important for the identification of a ball court, the stone ring, was absent in all the ball courts which we found. This is in no way surprising when we read the accounts of the ball game in the Popol Vuh. When the messengers of Hun-Came and Vukub-Came, came to invite Hunhun-Ahpu and Vukub-Hun-Ahpu to come to the underworld to play ball[9] they instructed them to bring their instruments consisting of their rings, their gloves, and also their rubber ball. In the same book we find several mentions of these instruments, as for example on page seventy-five where there is mention of their leather shields, their rings, their gloves, and helmets. In every case the ring is mentioned with other portable things as gloves and shields, and the two brothers are instructed to bring these to Xibalba. This plainly indicates that the original ball game was played with portable rings and that the stone ring encountered both in the ball courts in northern Yucatan and the Mexico valley must pertain to a later evolution of the game.

The rubber ball, so essential to the game of *tlachtli,* undoubtedly must have its home in southern Mexico and Central America. During our journey through the dense and now uninhabited forests of the Tzendales and the Peten we constantly found the castiloa rubber tree growing wild. This tree does not grow in the highlands of Mexico. A study of the name for a ball of rubber which is *uol* in Maya and *olli* in Nahua, may also point towards a southern origin.

The short time which has passed since the return of the Expedition has not permitted me to make a detailed study of this subject, but as I consider the finding of ball courts in the Old Empire region of great importance, and overthrowing a long cherished theory, I herewith submit these preliminary data. An extensive study of the whole subject will be incorporated in the volumes to be published on the John Geddings Gray Memorial Expedition.

TULANE UNIVERSITY OF LOUISIANA,
NEW ORLEANS.

---

[9] Popol Vuh, *Le Livre Sacrée et les Mythes de l'Antiquité Américaine, avec les Livres Héroiques des Quichés . . .* Texte Quiché et traduction francaise, accompagnée de notes philologiques et d'un commentaire sur la mythologie et les migrations des peuples anciens de l'Amerique par l'Abbé Brasseur de Bourbourg. Paris, 1861, pp. 75 and 77.

EXPLORACIÓN EN LA PIRÁMIDE DE TENAYUCA POR LA DIRECCION DE ARQUEOLOGIA DE MEXICO

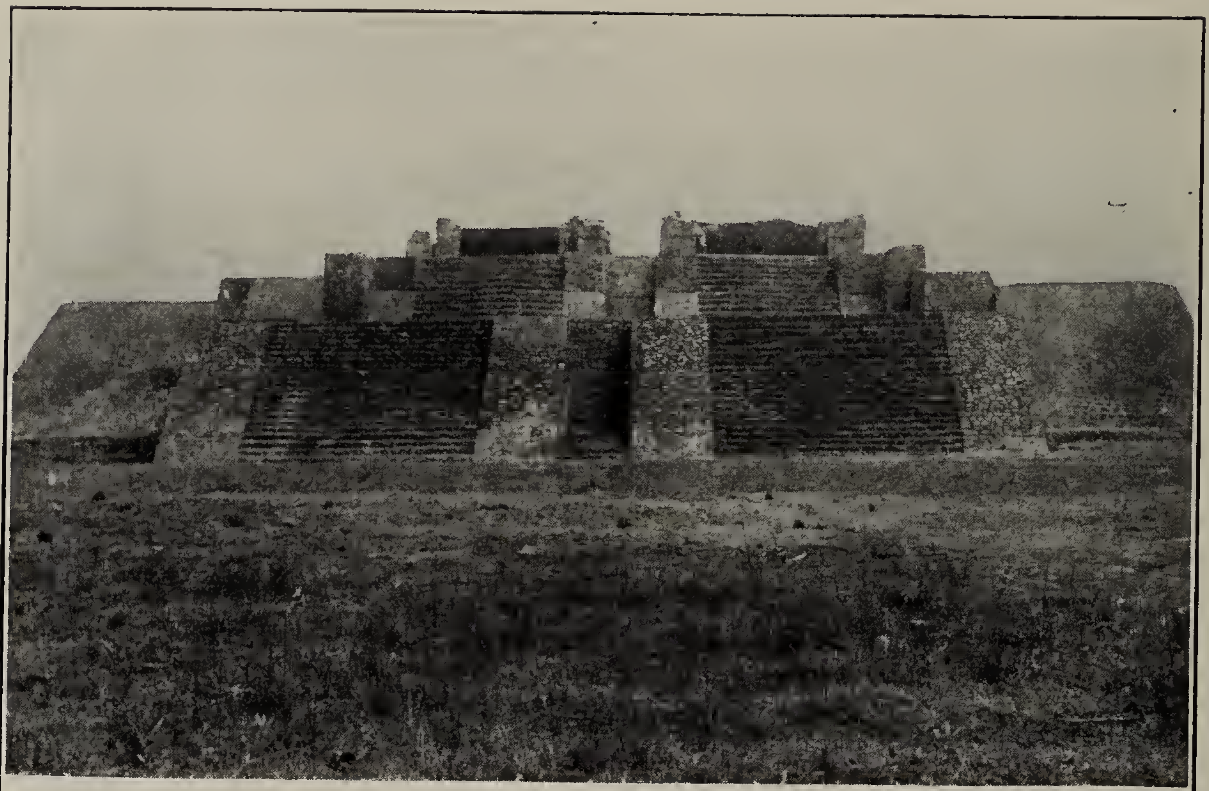
POR JOSÉ REYGADAS VERTIZ

Datos Históricos. Existen varias referencias históricas de la población antigua de Tenayuca como principal capital de los chichimecas, y diversos cronistas, entre ellos Motolinía y principalmente Bernal Díaz del Castillo, la nombran en sus relaciones, llamándole este último historiador *El Pueblo de las Sierpes,* haciendo alusión al templo. Se dice que la población tuvo época en que alcanzó singular importancia, siendo vasallos de este reino diverses jefes acolhuas llegados al Valle de Anahuac cuando Tenayuca ya predominaba, y después, cuando las ciudades acolhua-tepanecas empezaron a alcanzar grandes progresos, Tenayuca bajó de categoría, acabando por ser una ciudad tributaria de los nuevos pueblos.

Conocimiento de la existencia de esta Pirámide y de las de Cuernavaca y Santa Cecilia. Siempre fué conocida la existencia del montículo de Tenayuca, situado en las cercanías de Tlalnepantla, a 10 kilómetros al N. W. de la ciudad de México. Sus grandes proporciones, 72 metros de lado en la base y 17 metros de altura, y el hecho de estar colocado en el centro de la pequeña población de Tenayuca, lugar muy interesante por sus antecedentes históricos y por los depósitos de cerámica allí existentes, llamaron siempre la atención de los estudiosos en la materia. La Dirección de Antropología, desde años atrás de 1925, año en que empezó la exploración, ya tenía una vigilancia contínua en el lugar, que fué declarado monumento arqueológico desde 1914, y de hecho, desde entonces, se impidió la siembra en sus cercanías y principalmente la explotación de su material que estaba siendo empleado en todas las construcciones modernas circundantes a la pirámide. Esto, por desgracia, no pudo hacerse en tiempo oportuno para haber impedido que los dos o tres cuerpos superiores de la construcción desaparecieran, pues la piedra debe haber estado a flor de tierra en la parte alta o fué susceptible de obtenerse con pequeñas excavaciones.

La exploración de la Pirámide de Santa Cecilia, a 2 kilómetros al Norte de Tenayuca (Lám. Ia), llevada a cabo en 1923 y 1924 por la Dirección de Antropología, afirmó más la creencia de que existían importantes vestigios arqueológicos bajo el entonces montículo de Tenayuca, creencia que se hizo más firme por el gran número de objetos y piezas de cerámica que los vecinos del pueblo tienen en su poder, y que afirmaban aparecían en pequeñas excavaciones practicadas en los terrenos y aun en el mismo montículo.

La Dirección de Antropología en 1922 también había explorado la Pirámide de Teopanzolco en las cercanías de Cuernavaca, Estado de Morelos (Lám. Ib y IIa) y las grandes semejanzas que se encontraron entre ésta y la pirámide de Santa Cecilia, que acusaban características muy definidas de la arquitectura azteca, decidieron en 1925 a la Dirección de Arqueología a emprender la ex-



ploración de Tenayuca, con la seguridad, confirmada después, de que esta investigación, practicada en un monumento cercano al de Santa Cecilia y de dimensiones mayores que acusaban gran importancia, revelaría datos que vendrían a aclarar definitivamente puntos dudosos y a confirmar presunsciones establecidas en las dos investigaciones mencionadas.

Descripción de la secuela de las excavaciones.—Escaleras. La exploración principió a mediados del año de 1925 y a la fecha está por terminarse, habiéndose llevado a cabo con la lentitud y cuidado necesarios en esta clase de trabajos.

El montículo, antes de empezar la excavación, presentaba el aspecto de la fotografía (Lám. IIb) y juzgándose que el lado W. era el más interesante por presumirse que de este lado se encontraban las escaleras, por dicho lado y en la parte baja se abrió la primera cala perpendicularmente a la posición que deberían tener los paramentos. Esta cala fué hecha cortando el escombro que naturalmente estaba acumulado en la parte inferior en mayor cantidad, aparentando una base más amplia de la pirámide, y a los 8 metros se encontraron los peldaños inferiores de una escalera (Lám. IIIa). Esta se siguió en ambos lados en la parte inferior y aunque no se encontró contínua sí pudo llegarse a las alfardas que marcaron perfectamente el ancho de la escalinata, que es de 15 metros (Lám. IIIb) y al pie de la alfarda central se encontraron dos cabezas de serpiente. La exploración se continuó sobre todo el ancho, pero no se encontraron en la parte inferior mas que pequeños fragmentos de escalones aislados y en situación muy inestable, pues dado el sistema de construcción, los fragmentos se apoyaban sobre el material suelto del núcleo.

Se procuró desde luego la consolidación, pues de no haberse procedido inmediatamente, le primera temporada de lluvias hubiera desprendido los fragmentos, por la circunstancia antes mencionada, y se procedió a revestir con piedra no labrada los espacios comprendidos entre las partes auténticas, protegiéndolas de este modo y consiguiéndose al mismo tiempo, al aceptar este procedimiento, hacer una diferenciación bien marcada entre la obra arqueológica y la obra moderna para conservación de lo anterior.

La exploración preliminar y de investigación previa que acusó la existencia de la escalera, terminó con lo anterior, procediéndose desde luego a cubrir provisionalmente la parte ya consolidada e iniciando la exploración definitiva de arriba hacia abajo.

Contra lo que se esperaba, dado el grado de destrucción que siempre presentan los edificios arqueológicos en las partes superiores, se encontró desde luego la terminación de la escalera en perfecto estado (Lám. IVa), con la proporción de 30 metros de ancho, dividida en dos partes por una doble alfarda. Llamó desde luego la atención que la escalinata en la parte superior no correspondía a la de la parte inferior descubierta en la exploración preliminar, sino que estaba situada en un plano posterior, y no se podía presumir que esto se debiera a la existencia de varios cuerpos superpuestos, puesto que las dimensiones eran absolutamente distintas y no había correspondencia naturalmente ni en las alfardas ni en la inclinación de las pendientes. Desde luego se supuso y se confirmó después, que se trataba de un caso semejante al de la Pirámide de Cuernavaca y al del Templo de Quetzalcóatl en Teotihuacán: un templo primitivo con gran escalinata y en la parte anterior una superposición posterior, de manera que aquí, como en los otros casos mencionados, se presentaba desde luego el problema de hacer la excavación completa de la escalinata primitiva hasta el nivel del suelo, y conservar la escalinata del edificio superpuesto en la parte de adelante, hasta la altura en que aparecieran vestigios, pues aunque se podía suponer que esta escalera superpuesta llegaba hasta la meseta, cubriendo totalmente la primitiva, como lo acusa el perfecto estado de conservación de ésta, no era admisible, desde el punto de vista arqueológico, completar la altura sin que a esto autorizaran los vestigios encontrados.

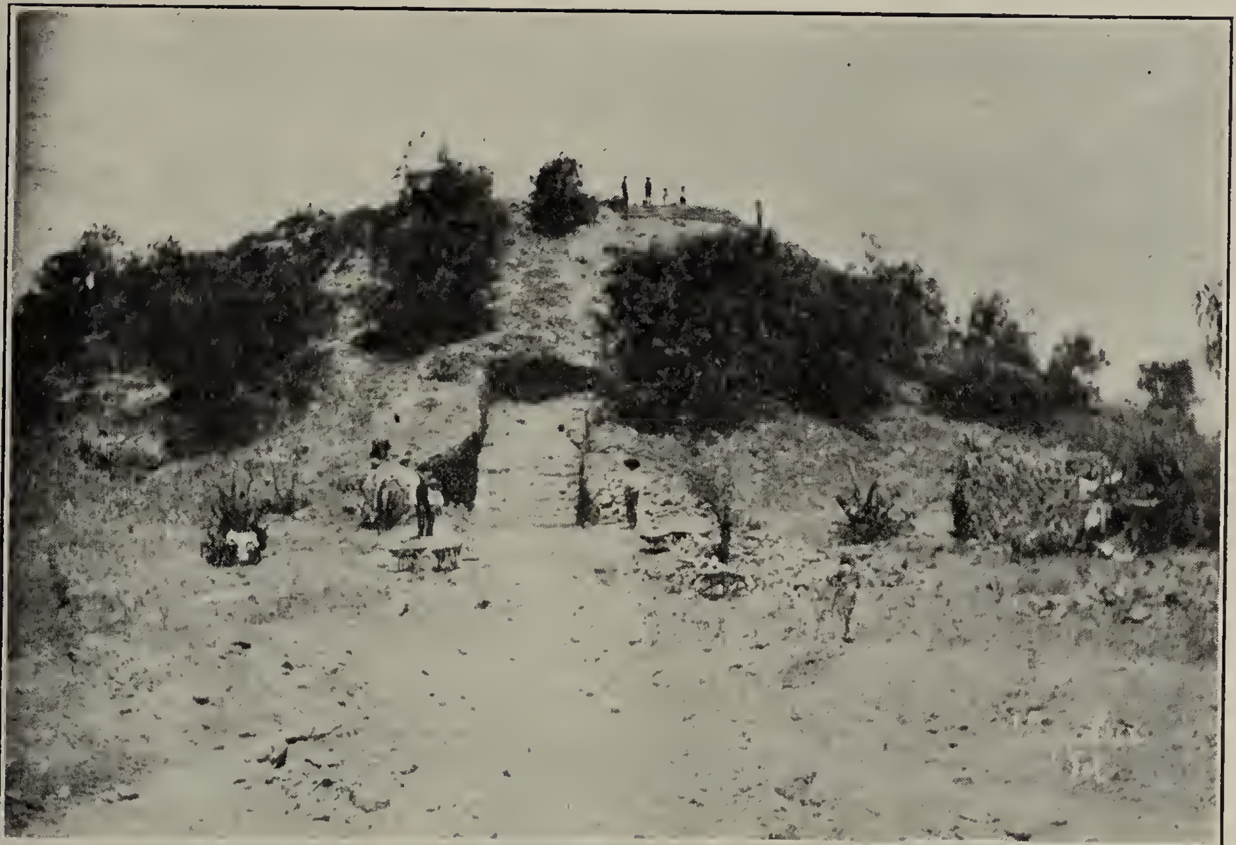
Se prosiguió la excavación en todo el ancho de la escalera, encontrándolo, como se dijo, en admirable estado de conservación y colocando en su sitio alguna que otra piedra o fragmento suelto. La fotografía (Lám. IVb) da idea de la excavación después de dos meses de trabajo.

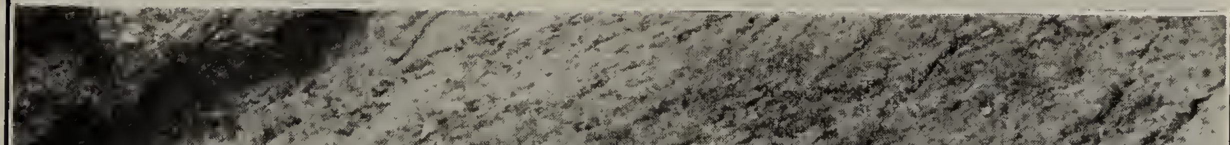
Al mismo tiempo que se descubría la escalera primitiva se iba poniendo especial atención para encontrar los vestigios más altos de la escalera superpuesta, con el fin de dejar una meseta a este nivel, abajo de la cual y hacia adentro, la excavación de la primitiva tenía que ser detrás de la superpuesta. A la altura de 7 metros se encontró el escalón más alto de los que se conservan y entonces se procedió a completar el descubrimiento hacia el exterior, presentando la excavación, después de ésto, el aspecto de las fotografías (Lám. V) en las que pueden verse las dos escalinatas, la primitiva excavada sólamente hasta la altura de la meseta que se formó al nivel del vestigio mas alto de la superpuesta. La conservación en la forma indicada anteriormente se llevó a cabo desde luego, tanto para proteger los fragmentos aislados de la superposición, como para preservar los aplanados que en grandes espacios aparecieron en escalones y alfardas en ambas estructuras.

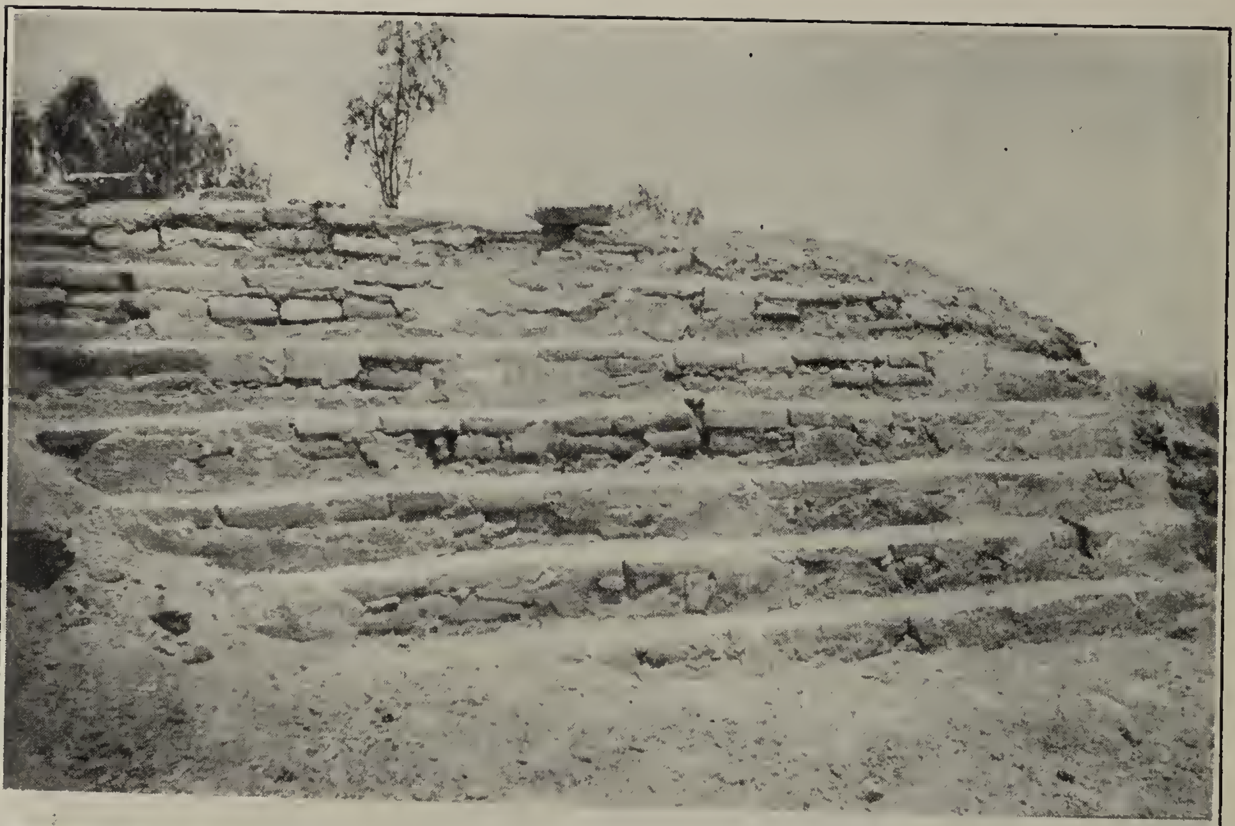
La excavación prosiguió entonces en la escalera primitiva, abriendo el espacio comprendido entre ella y la meseta. Esta parte de la labor fué esencialmente interesante,, porque después de cada día de trabajo se admiraban más las enormes proporciones de la escalinata, y el perfecto estado de conservación que continuó hasta que se encontró el escalón inferior y el piso primitivo, hizo que al terminar el trabajo en esta parte se pudiera contemplar, por primera vez en los actuales tiempos, íntegramente y tal como lució en su época, una de las escaleras más suntuosas de la arquitectura azteca, pues cuenta con 30 metros en su base y la forman 62 peldaños, estando dividida en dos partes por una doble alfarda en la forma que después se describirá (Lám. VIa). Desgraciadamente, la alfarda, por su lado Norte fué destruída, pero la del Sur se presenta íntegra, así como la serie de entrantes y salientes que lateralmente resolvían la esquina con el lado Sur (Lám. VIb) Algunos fragmentos de escalones presentan figuras labradas, cuyo estudio ha sido hecho por el señor Lic. Alfonso Caso.

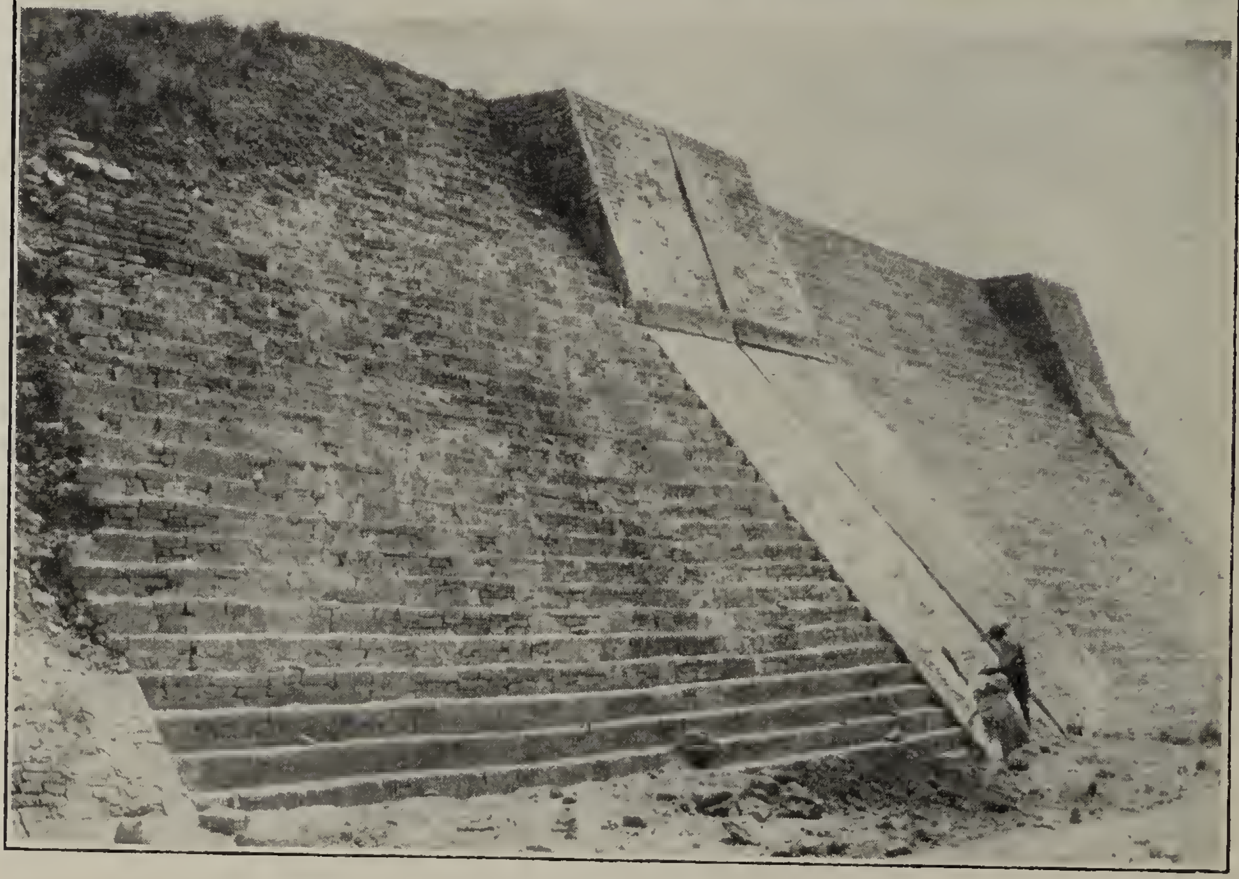
Para la debida protección del espacio comprendido entre la escalera primitiva y la superpuesta, resolviendo así el problema de conservar esta última y dar vista a la primera, se practicó un talud debidamente revestido para dar estabilidad al material, pero se dejó un espacio de 1 metro de ancho en el mismo talud en toda la altura para hacer aparente la estructura interior.

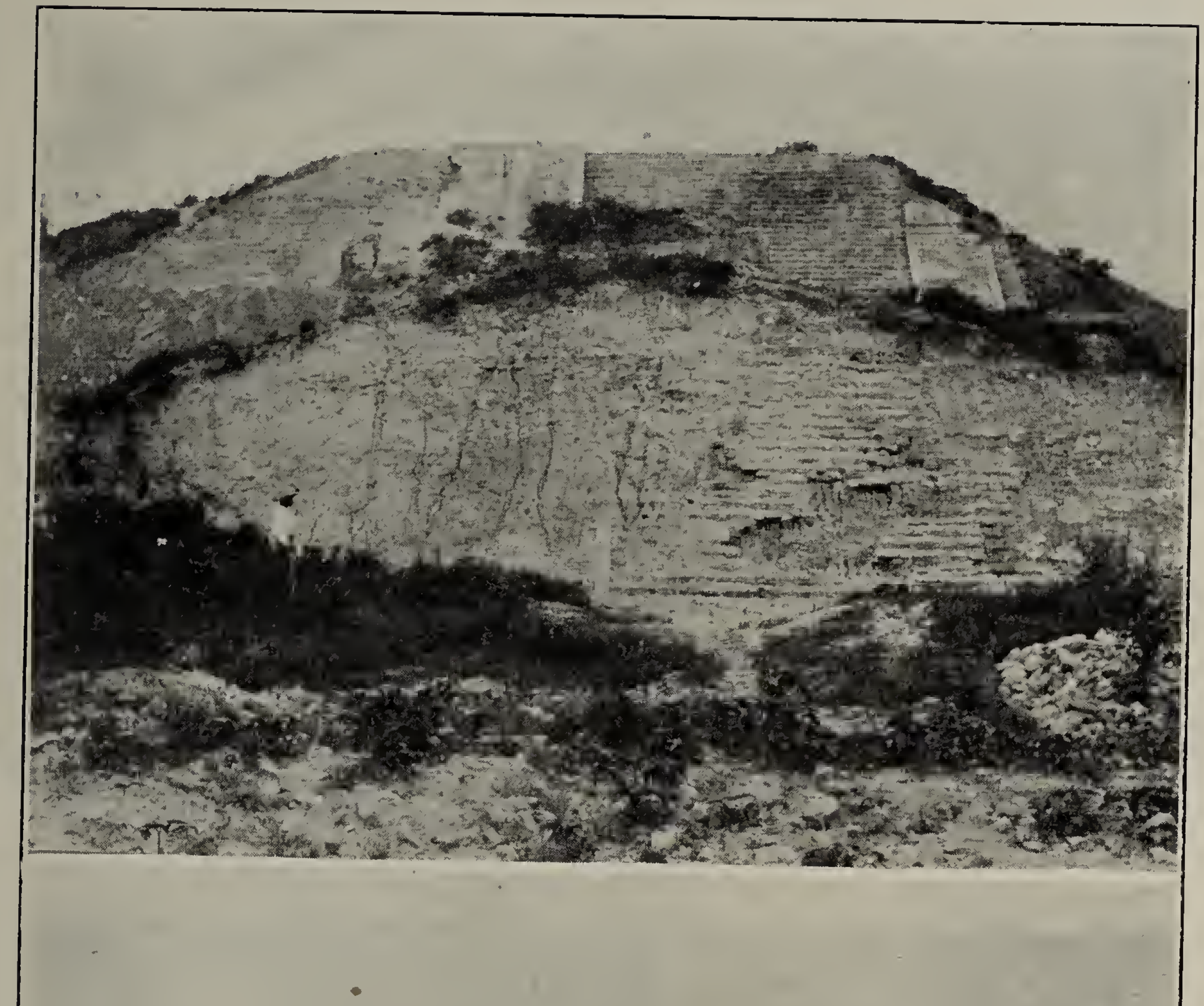
Debe hacerse notar que la escalera superpuesta, aunque de la misma forma que la primitiva, es decir, dividida en dos partes por una doble alfarda, no tiene iguales dimensiones y no corresponden los centros, pues tienen ambas distintos

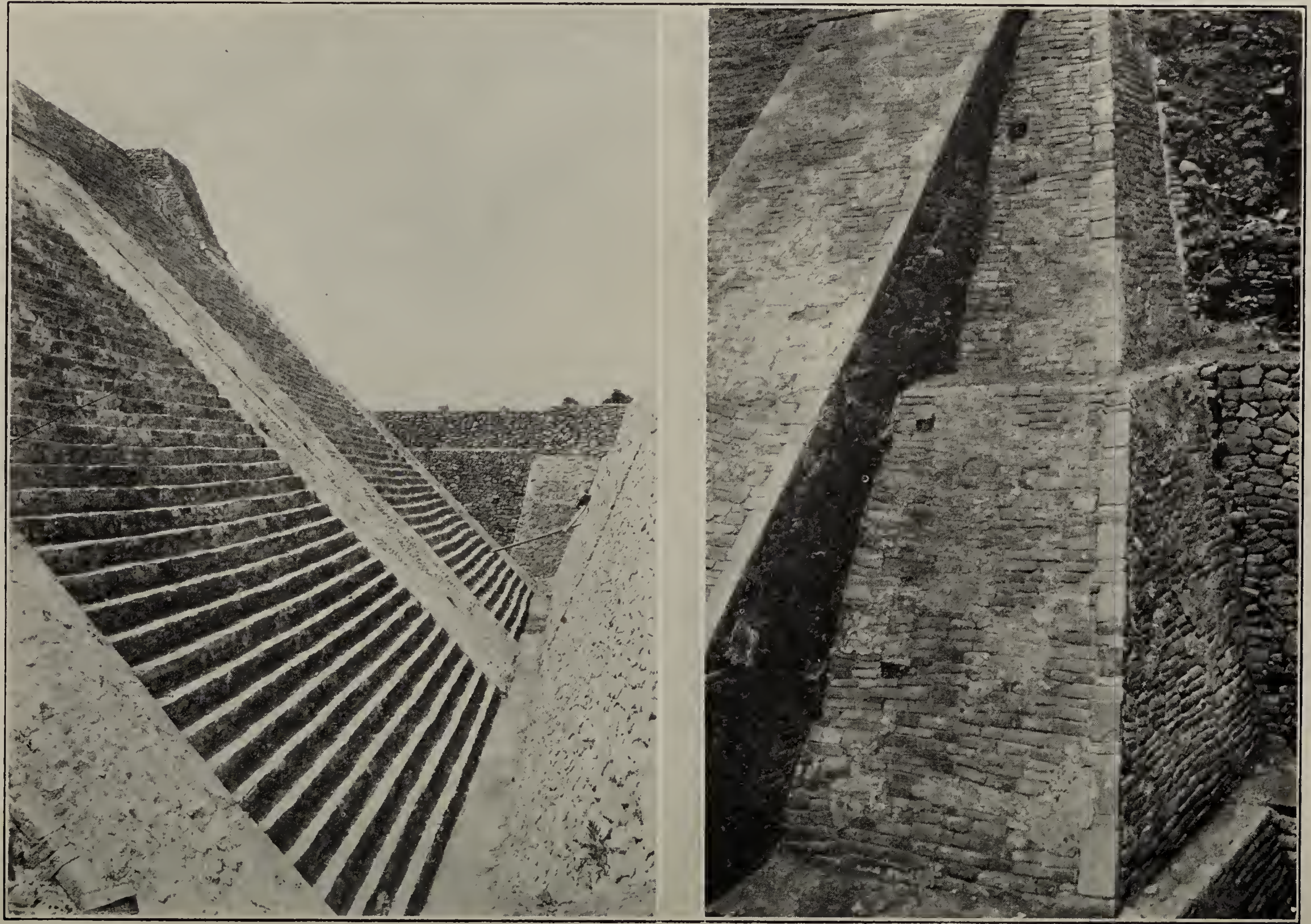












ejes. Además, toda la mitad N. de la superpuesta está perdida, no quedando mas restos de esta parte que unos fragmentos de escalones junto a la alfarda en la parte inferior (Lám. VIIa). Igualmente, de la doble alfarda central no se conservó más que la parte inferior en una altura de 3 metros y del lado Sur todo desapareció, a excepción de las piedras de cimentación que constituían el arranque y que, colocadas con la inclinación correspondiente, resistían normalmente el empuje de la construcción. El hallazgo de esta base fué de gran valor, pues sirvió para conocer el ancho de la alfarda Sur y poder hacer el revestimiento de piedra no tallada, tanto para indicar la situación de la alfarda, como para completar la protección de la escalinata.

Excavación en los Lados S. y E. Debidamente protegidas las excavaciones de ambas escalinatas y dada la gran cantidad de escombro que siempre se acumula en las esquinas, puesto que son los puntos más expuestos a la destrucción, se optó por iniciar la exploración del lado Sur, en su parte media, en vez de haberla seguido continuando el paño de las escaleras para descubrir la esquina S.W., pues algunas calas practicadas en este lugar acusaron, como se confirmó después, que el revestimiento en esta parte había desaparecido. Se hizo una cala preliminar hacia el centro y a tres metros de altura para cerciorarse de la existencia de estructuras, y se encontró desde luego un paramento piramidal formado con piedra labrada, revestida de aplanado conservado en grandes tramos. La misma operación se practicó en el lado E. y se obtuvo idéntico resultado, y una cala hecha en el lado N. puso a luz igual estructura, con lo que se comprobó la existencia de vestigios en los cuatro lados de la pirámide. Las calas con el ancho de exploración se siguieron hacia arriba y hacia abajo del punto inicial; la cala superior en todos los lados acusó la existencia de un cuerpo hasta determinada altura, arriba de la cual no existía ya piedra labrada de revestimiento, sino el núcleo de la construcción formado de piedra y arcilla; la cala inferior sí acusó la prolongación del revestimiento hacia abajo, y al llegar a la parte inferior se encontró un piso que en el primer momento se creyó era el de la plaza circundante de la pirámide. Estas calas completas de arriba hacia abajo, que fueron llevadas a cabo en los lados E. y S. aplazando la investigación del lado N., pusieron de manifiesto la existencia de dos cuerpos, con revestimiento de piedra labrada, separados por un espacio horizontal de 0.80 metros de ancho (Lám. VIIb).

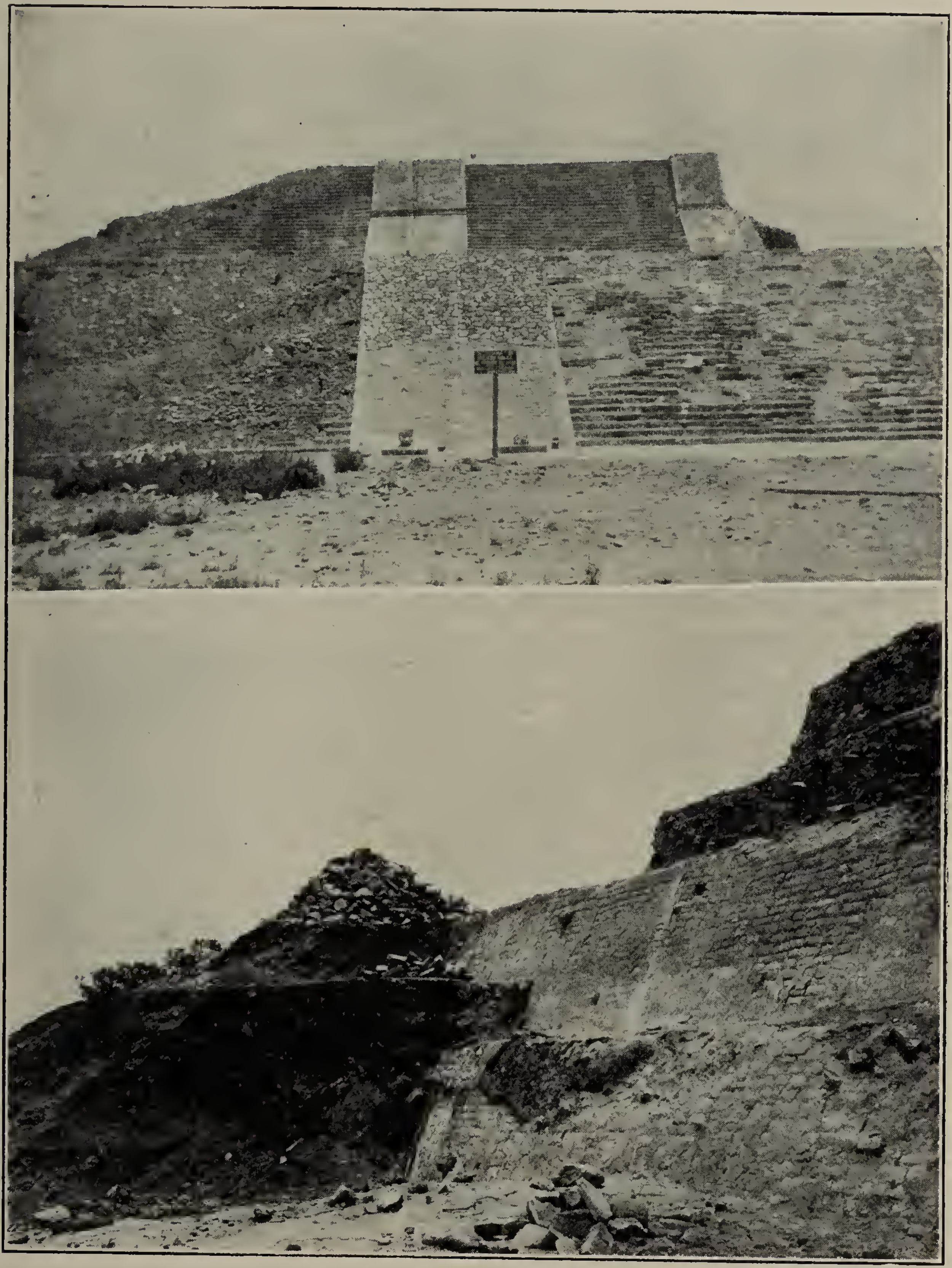
La excavación se inició ya en forma en los dos lados mencionados, y el hecho de haber encontrado algunas cabezas de serpiente entre los escombros removidos, hizo sospechar la existencia de algo más interesante en la parte inferior, y la ampliación de las excavaciones hacia abajo dió la grata sorpresa de comprobar la existencia de una banqueta de 2.80 metros de ancho y de 0.60 metros de alto alrededor de la construcción, con cuerpos de serpientes en forma de S, con la cabeza hacia fuera y los crótalos hacia dentro, pero tan juntas una de otra que los cuerpos forman un verdadero muro. Esto aconteció en ambos lados explorados y la fotografía (Lám. VIIIa) acusa el primer momento del descubrimiento.

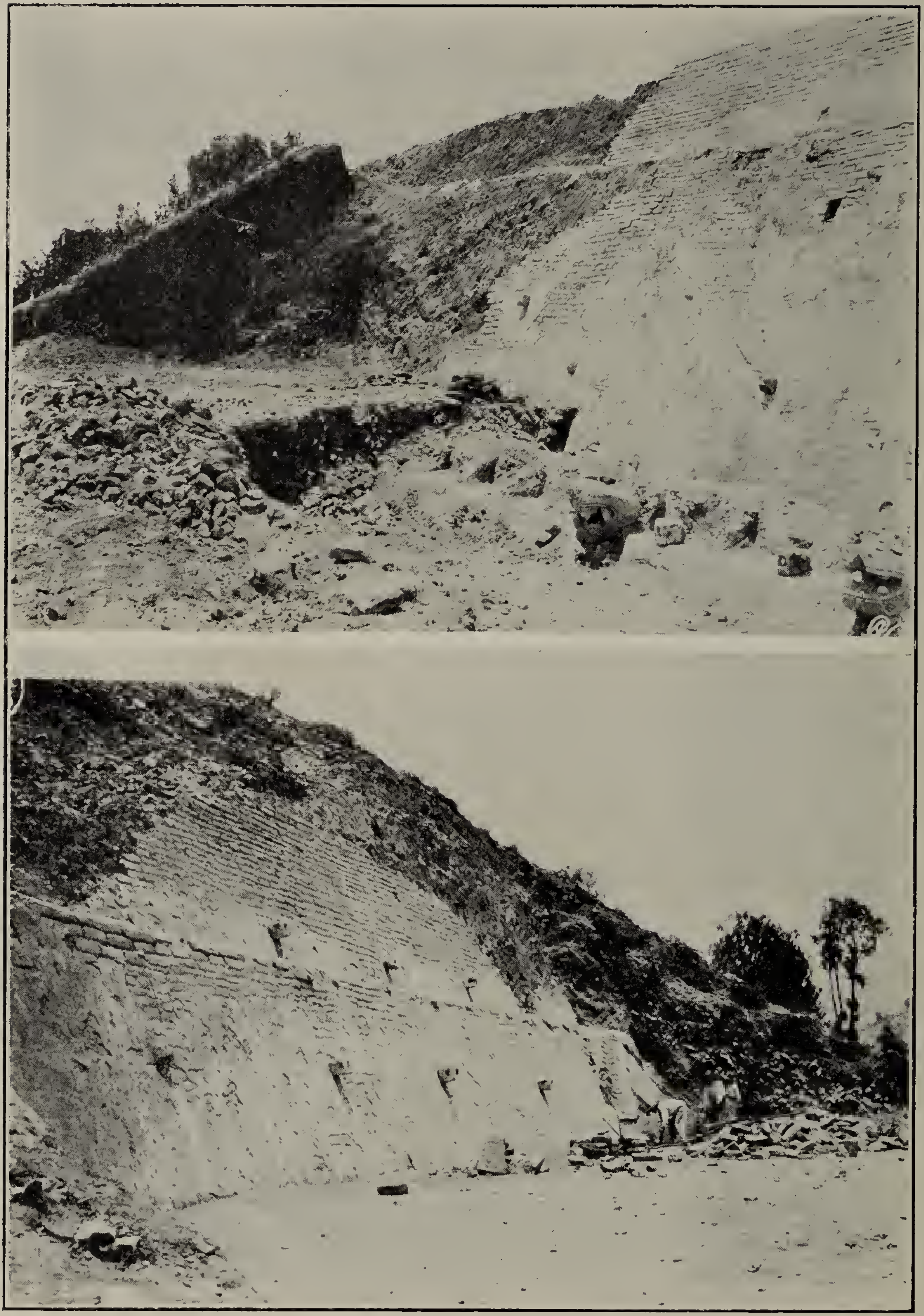
La exploración en ambos lados S. y E. puso a descubierto, una vez terminada, dos cuerpos piramidales con gran parte de la piedra de revestimiento en su sitio y con grandes espacios con el aplanado auténtico y una banqueta a lo largo de ambos lados, con las cabezas de serpiente en la forma descrita. La piedra labrada, como es natural, estaba en los dos cuerpos hacia el centro con la altura completa y en las esquinas había desaparecido, de manera que la forma general de los revestimientos descubiertos era una fracción de círculo con su flecha al centro de los paramentos (Lám. VIIIb). La esquina S.E., aunque sin la piedra labrada en su sitio, fué posible reconstruirla, pues la piedra se encontró íntegra entre el escombro y no se hizo más que volverla a su lugar. Las fotografías (Lám. IXa, b) dan idea de ésto antes y después de la reconstrucción. No sucedió lo mismo con la esquina N.E. donde se encontró una mínima parte de la piedra de revestimiento y por consiguiente la reconstrucción se hizo con piedra no labrada, de acuerdo con el plan adoptado, para distinguir lo auténtico de lo reconstruído, con propósitos de conservación.

Debe hacerse notar que las reconstrucciones mencionadas, que fueron hechas inmediatamente después de la excavación, fueron absolutamente necesarias, pues el núcleo de la construcción al descubierto, formado en gran parte por tierra suelta, hubiera ocasionado el derrumbe de las partes auténticas inmediatas. Llamará también la atención en las fotografías el hecho de que arriba del segundo cuerpo desaparece la piedra labrada y que el límite superior de este cuerpo aparece perfectamente horizontal y regular, pro debe tenerse presente, como se ha dicho antes, que los vecinos, antes de la intervención oficial, tomaran sistemáticamente la piedra labrada para construcciones modernas y, como es natural, empezaron por donde era más fácil conseguirla, por la parte superior y en toda la extensión, de modo que fueron progresivamente descendiendo con la explotación y hubieran acabado hasta la base de no haberse intervenido.

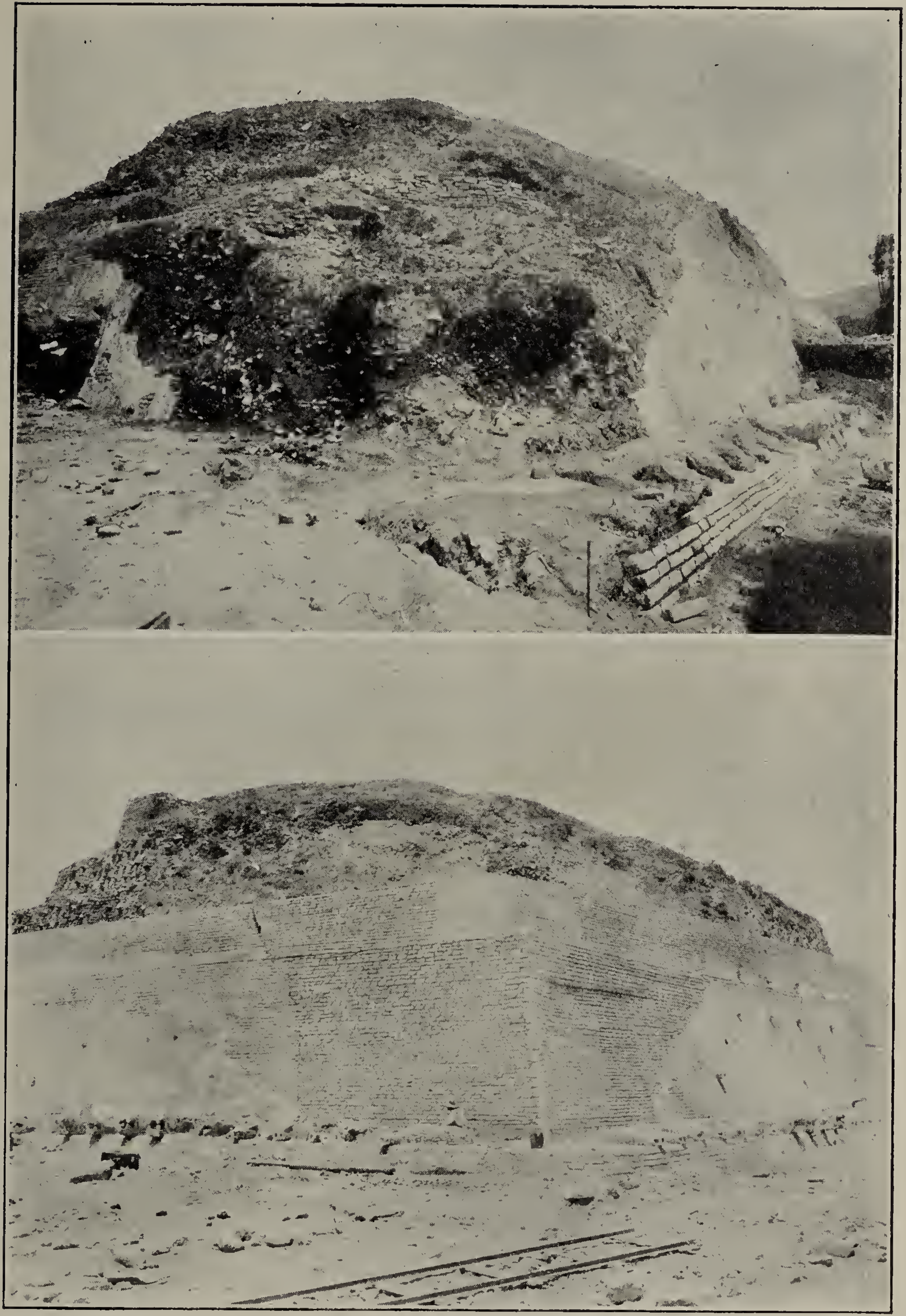
Sobre la banqueta mencionada anteriormente y que se levanta 0.60 metro sobre el terreno circundante, fueron descubiertos por el lado S. 45 cuerpos de serpiente colocados hacia el exterior de la banqueta, 7 cabezas empotradas en el talud de la misma y una hacia dentro y en la parte inferior del primer cuerpo. Por el lado E. se hallaron 50 sobre la banqueta, 11 cabezas en el talud y 2 arriba y hacia dentro (Lám. Xa). Todos los cuerpos, como se ha dicho, en la forma de una S, con las cabezas hacia fuera y los crótalos hacia dentro, con la circunstancia de que la sección del cuerpo es variable, mayor hacia el centro y disminuyendo en los extremos. El estado en que se encontraron estas estructuras fué, en general, con gran deterioro en la parte superior, pero conservando su forma general, y en la intersección de los cuerpos con la banqueta existen grandes fragmentos de aplanado, en gran parte pintados de rojo y en algunos sitios azules y verdes, y como las cabezas acusan también restos de color, puede asegurarse que todo este conjunto era policromado.

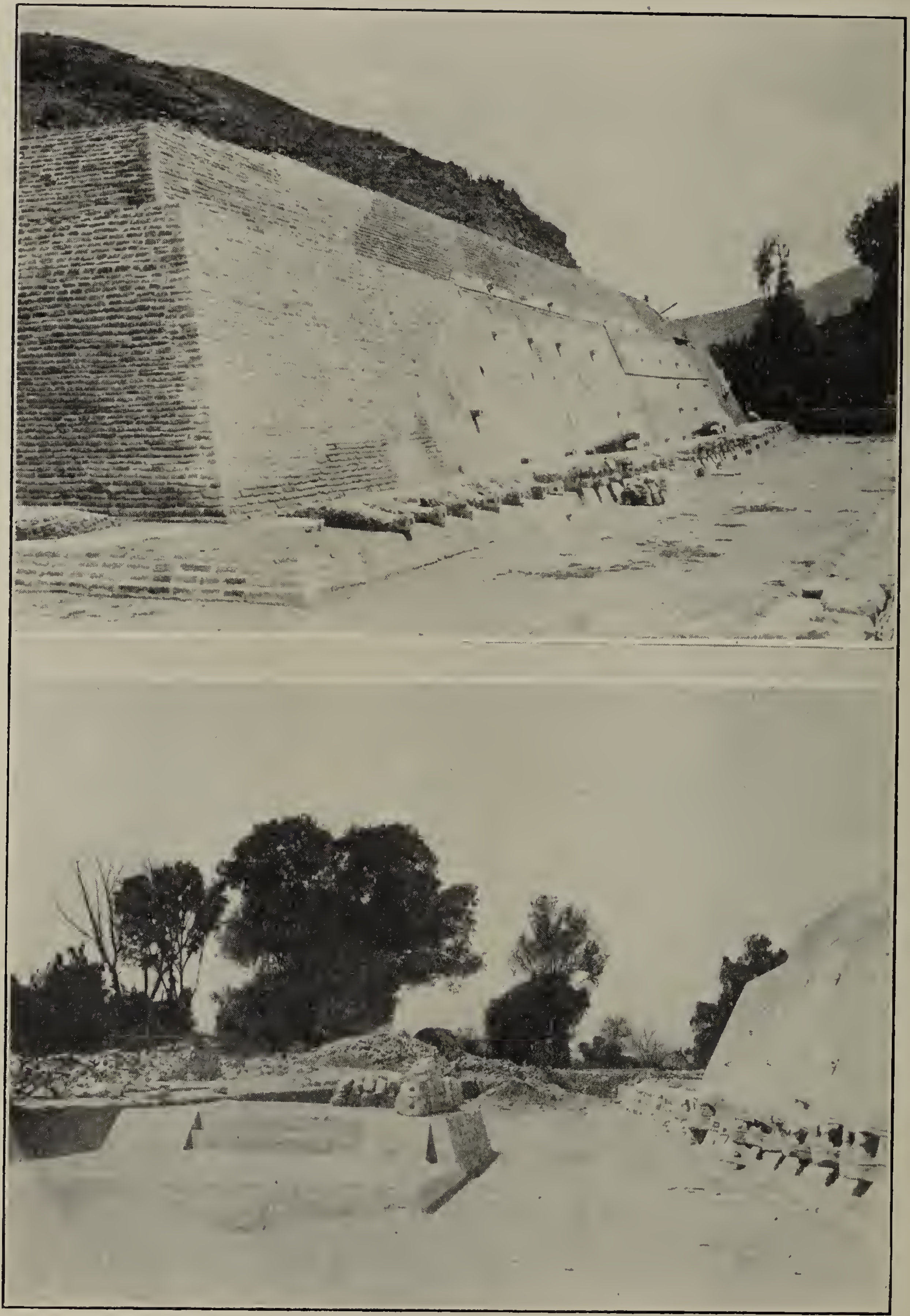
Respecto a las cabezas, las hay de distintos tamaños y formas, y debe hacerse notar que no todas estaban en su sitio, pero se tomó gran precaución en la excavación a fin de que el orden en que fueron encontradas las caídas se conservara en la reposición, pues es de esperarse que si la destrucción de esta parte inferior fué debida a los derrumbes superiores, cada cabeza desprendida de su sitio cayó de la banqueta y quedó inmediatamente abajo de su posición original. Esta destrucción fué muy natural, pues el punto de unión de las cabezas que son labradas en piedra, con el cuerpo formado por material pobre compuesto de piedra y arcilla, era un punto débil donde fatalmente tenía que verificarse la fractura. Sin embargo de lo anterior, la colocación de los distintos tipos de cabezas que no fueron encontradas en su sitio, debe considerarse como provisional,





REYGADAS VERTIZ—LAMINA IX





pues es posible que algunas provengan de los paramentos que, como se ve, estaban decorados con clavos en forma de serpiente, pero será cuestión de un estudio muy minucioso tan luego como termine la excavación del lado N., donde aun no aparecen todas las cabezas, y poder dilucidar entonces, en vista de los distintos tipos, la adecuada colocación. Hay la circunstancia de que lo grueso de los cuellos indicaba la dimensión de la cabeza correspondiente, pero aun así no puede haber seguridad completa en la situación actual de los distintos tipos de cabezas. Se juzgó necesario esta colocación provisional dándoles cierta solidez y no dejándolas sueltas en el lugar encontrado, para evitar su posible pérdida y principalmente para conservar, de una manera absolutamente segura, el orden encontrado en la excavación.

En el lado S. se encontraron 9 cabezas in-situ, y en el E., 10, pudiéndose a la fecha apreciar ésto con toda claridad en los restos de aplanado inferiores que son contínuos en estos sitios.

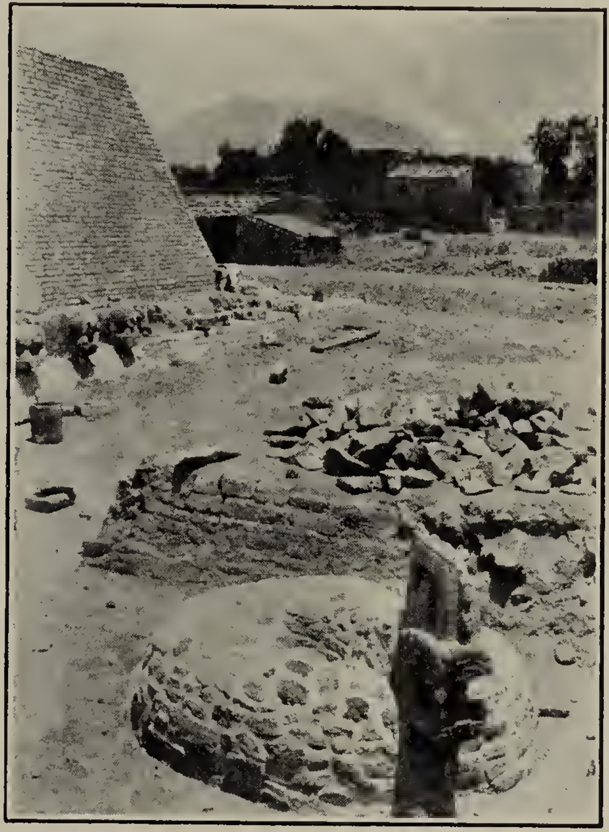


Figura 1

La reparación de estas estructuras se fué haciendo inmediatamente después de la excavación, respetando la forma aparecida, pero consolidándola en la parte superior, donde el material en su mayor parte estaba suelto, haciendo reboques en los aplanados inferiores. La fotografía (Lám. Xa) expone el estado de lado E. después de las reposiciones necesarias para la conservación.

Al ampliarse las excavaciones, tanto en el lado S. como en el E. se encontró un piso de 6 metros de ancho formado por pedazos de piedra que debe haber rodeado a la pirámide y que tal vez estaba cubierto con concreto, pero de ésto no aparecen restos, y la ampliación de la excavación por el lado S. puso a descubierto una plataforma de 0.70 metro de alto y 4.60 metros x 7.70 metros de base, y en el lado N. de ésta apareció una serpiente enrollada sobre sí misma, de 1.75

metros de diámetro, en dos vueltas, con la cabeza caída, pero en condiciones de reponerse en su sitio (Fig. 1, Lám. Xb). El estado de conservación en el momento de la excavación fué igual al de las otras serpientes y la consolidación se hizo en la misma forma; los materiales empleados fueron los mismos, piedra y arcilla formando el cuerpo y piedra labrada formando la cabeza, la que presenta una forma deprimida y con penacho. Restos de colores rojo y azul aparecen todavía sobre lo que queda de aplanado en la parte inferior.

Angulo S.W. El muro de serpientes y los paramentos de la pirámide se prolongaron hacia el W. en el lado S. hasta cierto punto cerca de la esquina S.W. en que la última serpiente fué cortada, con objeto de construir una plataforma de nivel superior a la del lado S. donde se advierten restos de bases de columnas, y hacia el N.W. se encontró un altar con calaveras en los lados (Lám. XIa) conteniendo una especie de caja con restos de frescos en el interior (Lám. XIb).

Los paramentos atrás de la serpiente cortada dieron vuelta en ángulo recto hacia el interior y se practicó un pequeño tajo para seguir la construcción, pero ésta desaparece a los tres metros, en la parte inferior aparecieran los vestigios de la construcción de la esquina S.W., pero no al paño de los paramentos del lado S., sino más adentro (Lám. XIIa). Sobre estos vestigios se practicó la reconstrucción de la esquina con piedra sin labrar, pues no se encontró una sola de las piedras de revestimiento originales (Lám. XIIb). Con lo anterior terminó la excavación en esta parte y se prosiguió en el lado N.

Lado N. La excavación, a la fecha todavía en ejecución,[1] acusa igual estructura que en los otros lados, con la diferencia de que en el extremo W. las serpientes cambiaron de forma y dimensiones, pues aparecieron algunas con los cuerpos de mayor longitud y correspondiendo una de ellas a dos las anteriores, tal vez con el propósito de evitarse el labrado de algunas cabezas, pero rompiendo la uniformidad existente en la forma y dimensiones de los cuerpos (Lám. XIIIa).

Se han encontrado 43 cuerpos de serpiente sobre la banqueta, de los que de algunos no aparecen aun las cabezas, siendo de presumirse que faltan o que se encuentran en el escombro no removido. Sobre el talud existen 11 y una arriba y hacia dentro, habiéndose encontrado 4 en su sitio.

La serpiente enroscada existe, como en el lado S., con la circunstancia de estar entre dos altares. Mide de diámetro 2.10 metros y los altares, el del lado N. con igual longitud y altura que el del S., pero con 3.70 metros de ancho y el del S. de la serpiente mide 3.80 metros x 5.80 metros (Láms. XIIIb y XIVa).

Esquina N.W. Fué excavada con el interés de hallar estructuras semejantes a las existentes en la S.W., pero no fué encontrada simetría mas que en el hecho de que los paramentos de piedra labrada del cuerpo inferior forman un ángulo como en el lado S.; el altar de calaveras no se encontró.

Aspecto General de la Construcción. Examinando el conjunto de la construcción (vease plano) se halla que en resumen se trata de una pirámide cuadrangular en su estructura general, formada por una serie de troncos de pirámide superpuestos, de los que se conservan dos con dos escaleras superpuestas por el lado W. Por los lados N., E. y S. y en la parte inferior, la construcción presenta una banqueta con cuerpos de serpiente de distintos tamaños y formas,

---

[1] Actualmente la exploración de este lado está terminada y la Dirección de Arquelogía prepara una monografía completa.

metros de diámetro, en dos vueltas, con la cabeza caída, pero en condiciones de reponerse en su sitio (Fig. 1, Lám. Xb). El estado de conservación en el momento de la excavación fué igual al de las otras serpientes y la consolidación se hizo en la misma forma; los materiales empleados fueron los mismos, piedra y arcilla formando el cuerpo y piedra labrada formando la cabeza, la que presenta una forma deprimida y con penacho. Restos de colores rojo y azul aparecen todavía sobre lo que queda de aplanado en la parte inferior.

Angulo S.W. El muro de serpientes y los paramentos de la pirámide se prolongaron hacia el W. en el lado S. hasta cierto punto cerca de la esquina S.W. en que la última serpiente fué cortada, con objeto de construir una plataforma de nivel superior a la del lado S. donde se advierten restos de bases de columnas, y hacia el N.W. se encontró un altar con calaveras en los lados (Lám. XIa) conteniendo una especie de caja con restos de frescos en el interior (Lám. XIb).

Los paramentos atrás de la serpiente cortada dieron vuelta en ángulo recto hacia el interior y se practicó un pequeño tajo para seguir la construcción, pero ésta desaparece a los tres metros, en la parte inferior aparecieran los vestigios de la construcción de la esquina S.W., pero no al paño de los paramentos del lado S., sino más adentro (Lám. XIIa). Sobre estos vestigios se practicó la reconstrucción de la esquina con piedra sin labrar, pues no se encontró una sola de las piedras de revestimiento originales (Lám. XIIb). Con lo anterior terminó la excavación en esta parte y se prosiguió en el lado N.

Lado N. La excavación, a la fecha todavía en ejecución,[1] acusa igual estructura que en los otros lados, con la diferencia de que en el extremo W. las serpientes cambiaron de forma y dimensiones, pues aparecieron algunas con los cuerpos de mayor longitud y correspondiendo una de ellas a dos las anteriores, tal vez con el propósito de evitarse el labrado de algunas cabezas, pero rompiendo la uniformidad existente en la forma y dimensiones de los cuerpos (Lám. XIIIa).

Se han encontrado 43 cuerpos de serpiente sobre la banqueta, de los que de algunos no aparecen aun las cabezas, siendo de presumirse que faltan o que se encuentran en el escombro no removido. Sobre el talud existen 11 y una arriba y hacia dentro, habiéndose encontrado 4 en su sitio.

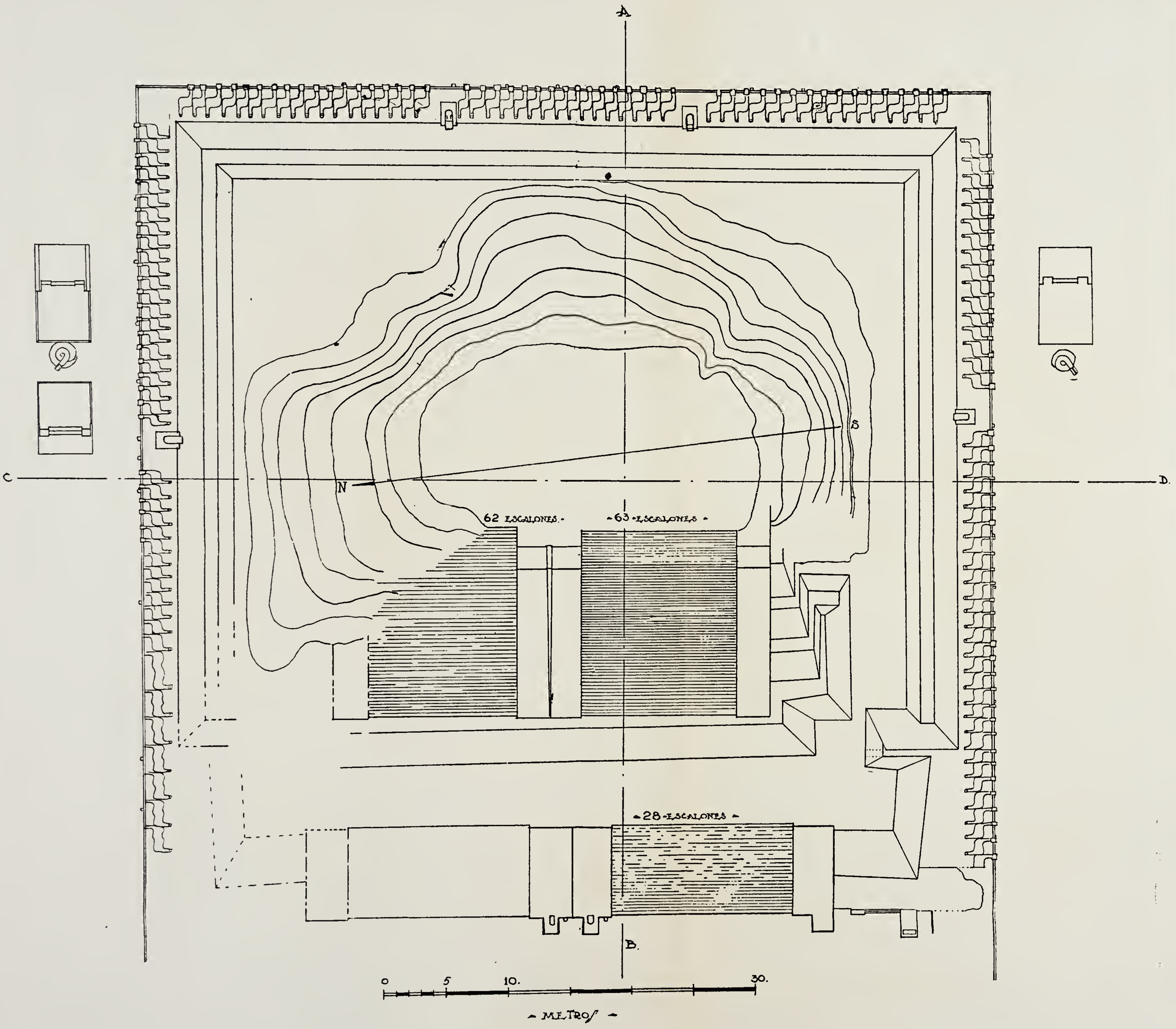
La serpiente enroscada existe, como en el lado S., con la circunstancia de estar entre dos altares. Mide de diámetro 2.10 metros y los altares, el del lado N. con igual longitud y altura que el del S., pero con 3.70 metros de ancho y el del S. de la serpiente mide 3.80 metros x 5.80 metros (Láms. XIIIb y XIVa).

Esquina N.W. Fué excavada con el interés de hallar estructuras semejantes a las existentes en la S.W., pero no fué encontrada simetría mas que en el hecho de que los paramentos de piedra labrada del cuerpo inferior forman un ángulo como en el lado S.; el altar de calaveras no se encontró.

Aspecto General de la Construcción. Examinando el conjunto de la construcción (vease plano) se halla que en resumen se trata de una pirámide cuadrangular en su estructura general, formada por una serie de troncos de pirámide superpuestos, de los que se conservan dos con dos escaleras superpuestas por el lado W. Por los lados N., E. y S. y en la parte inferior, la construcción presenta una banqueta con cuerpos de serpiente de distintos tamaños y formas,

---

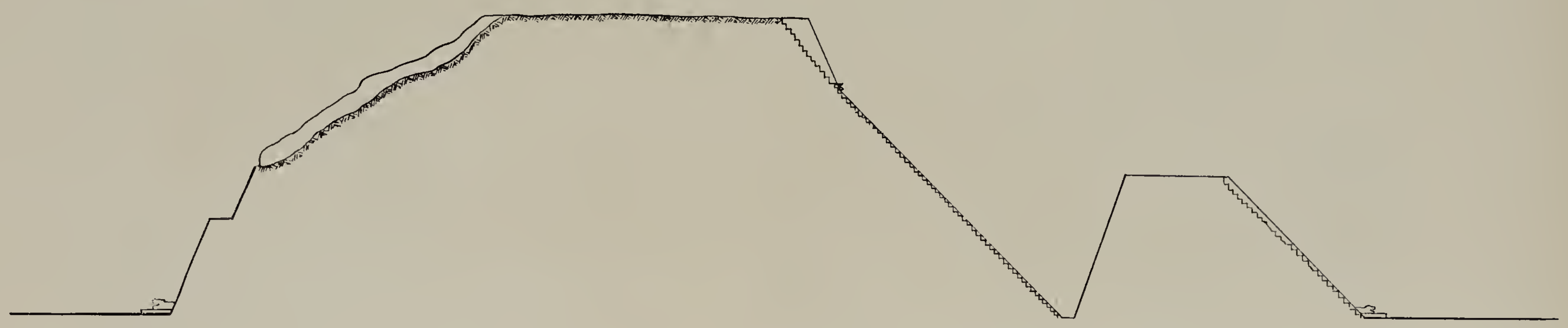
[1] Actualmente la exploración de este lado está terminada y la Dirección de Arquelogía prepara una monografía completa.


A
C
D
N
S
62 ESCALONES
63 ESCALONES
28 ESCALONES
B.
0
5
10.
30.
METROS

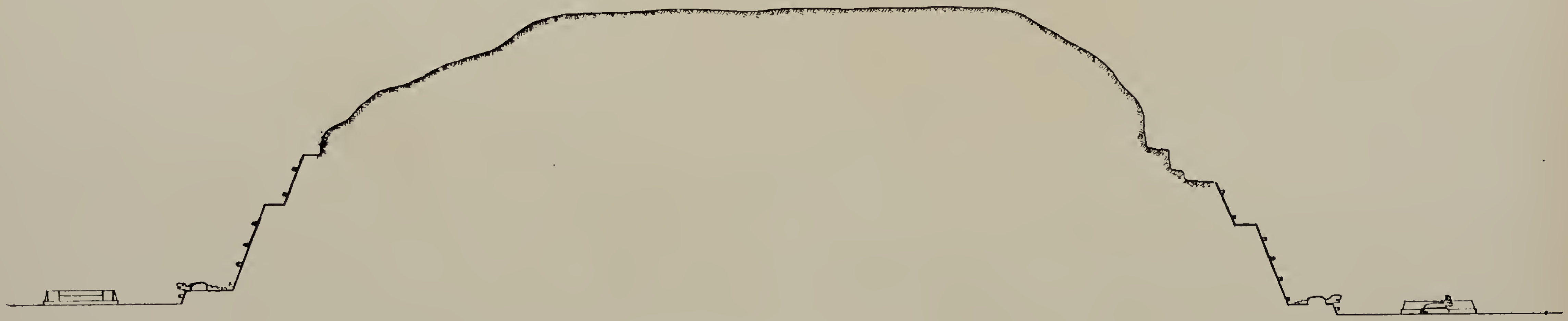
- PIRAMIDE - DE - TENAYVCA -

- PLANO - GENERAL -

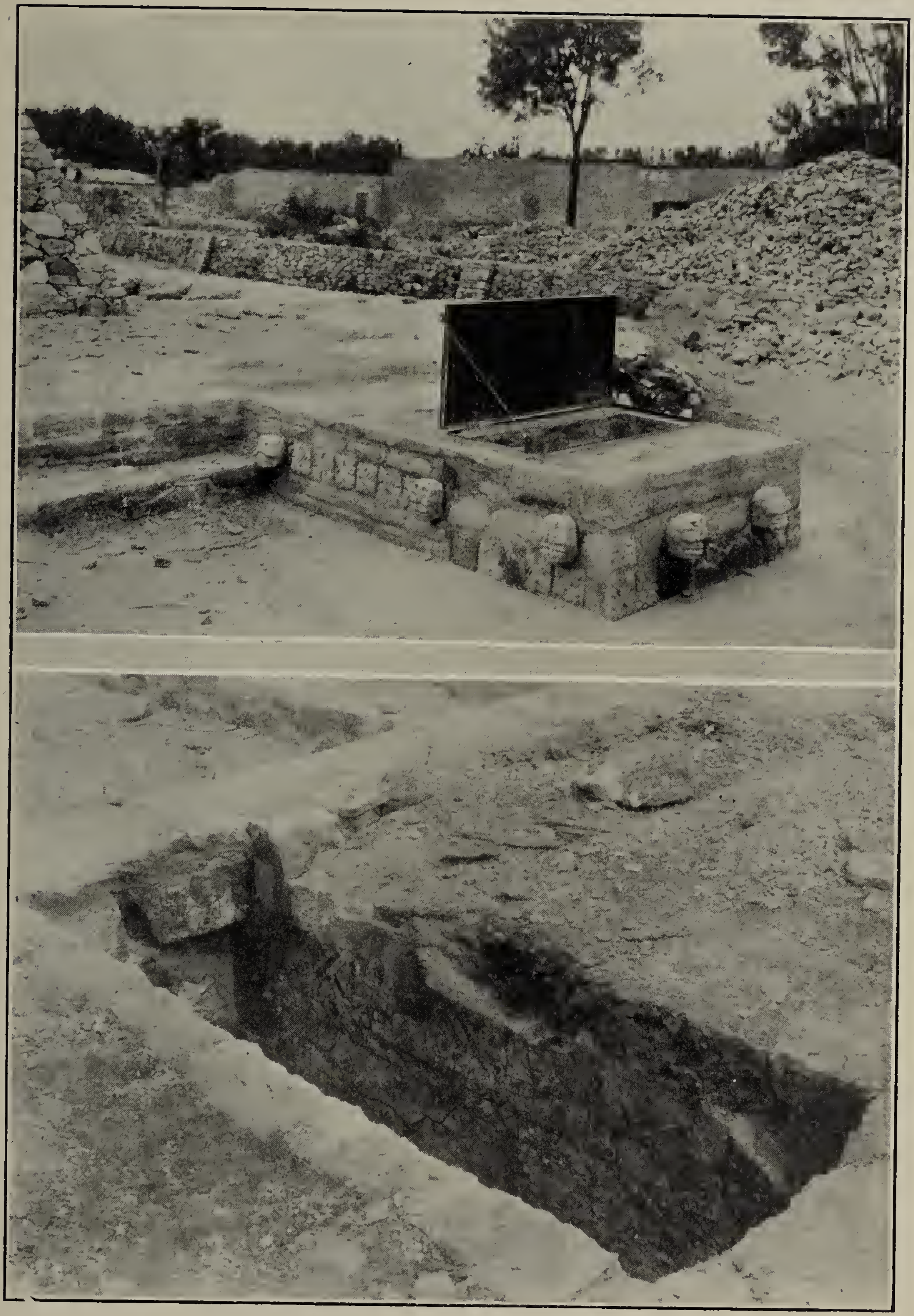
- DIRECCION - DE - ARQVEOLOGIA - SRIA - EDVCACION - P -

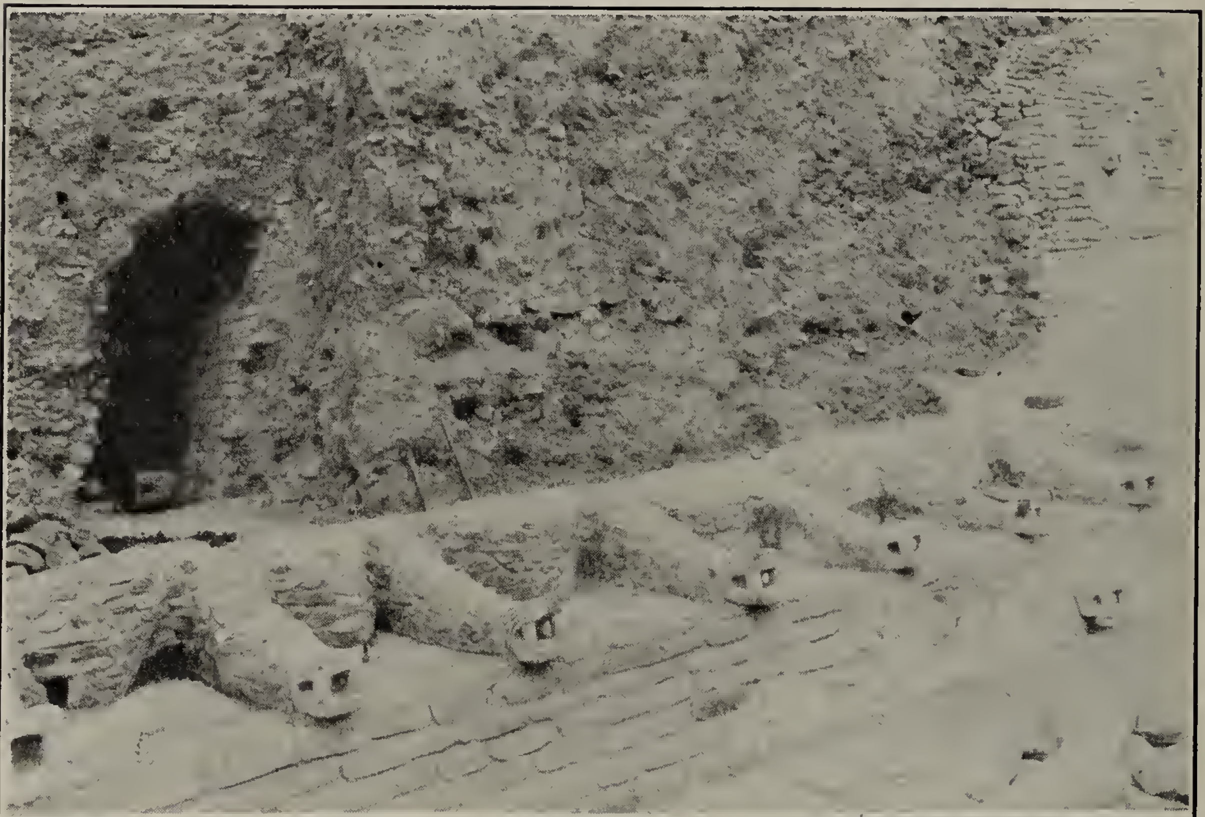


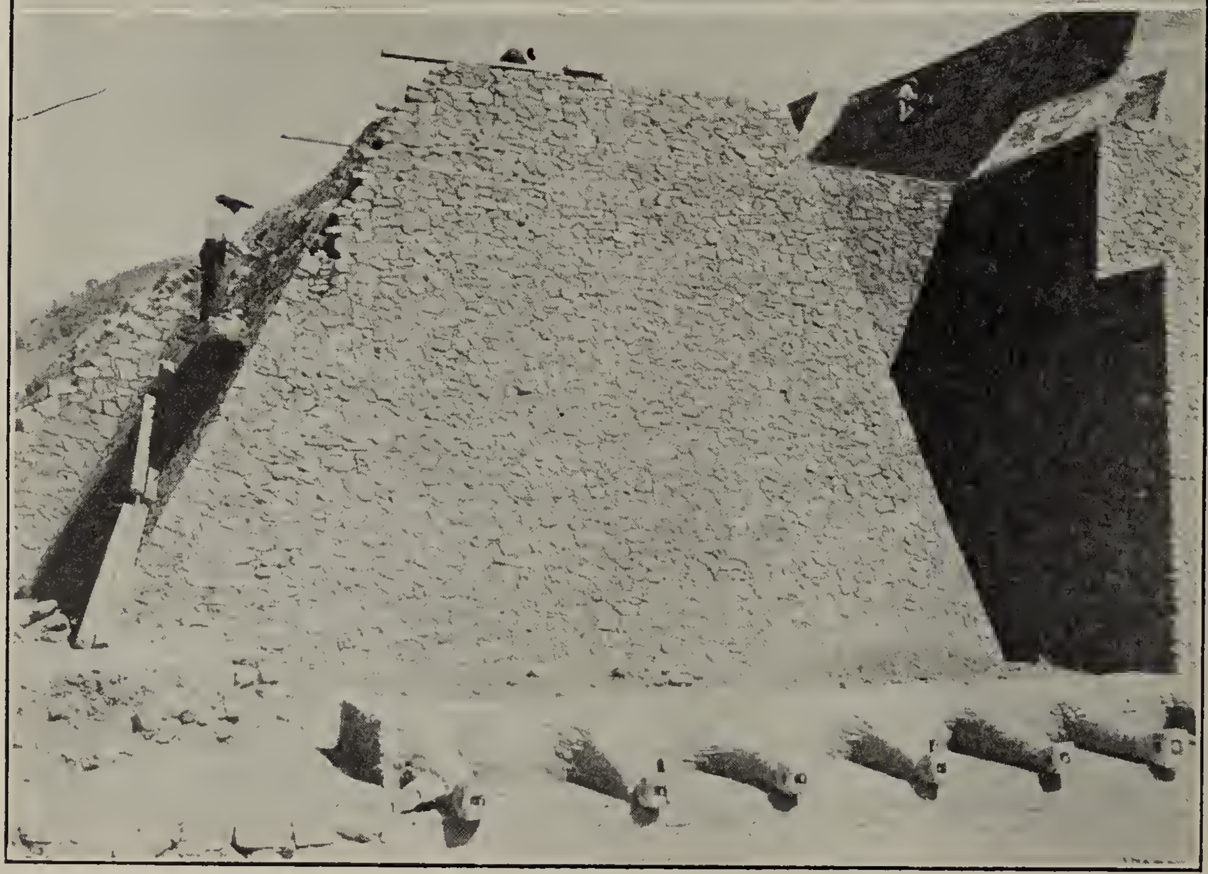
- CORTE - LONGITVDINAL - A.B -

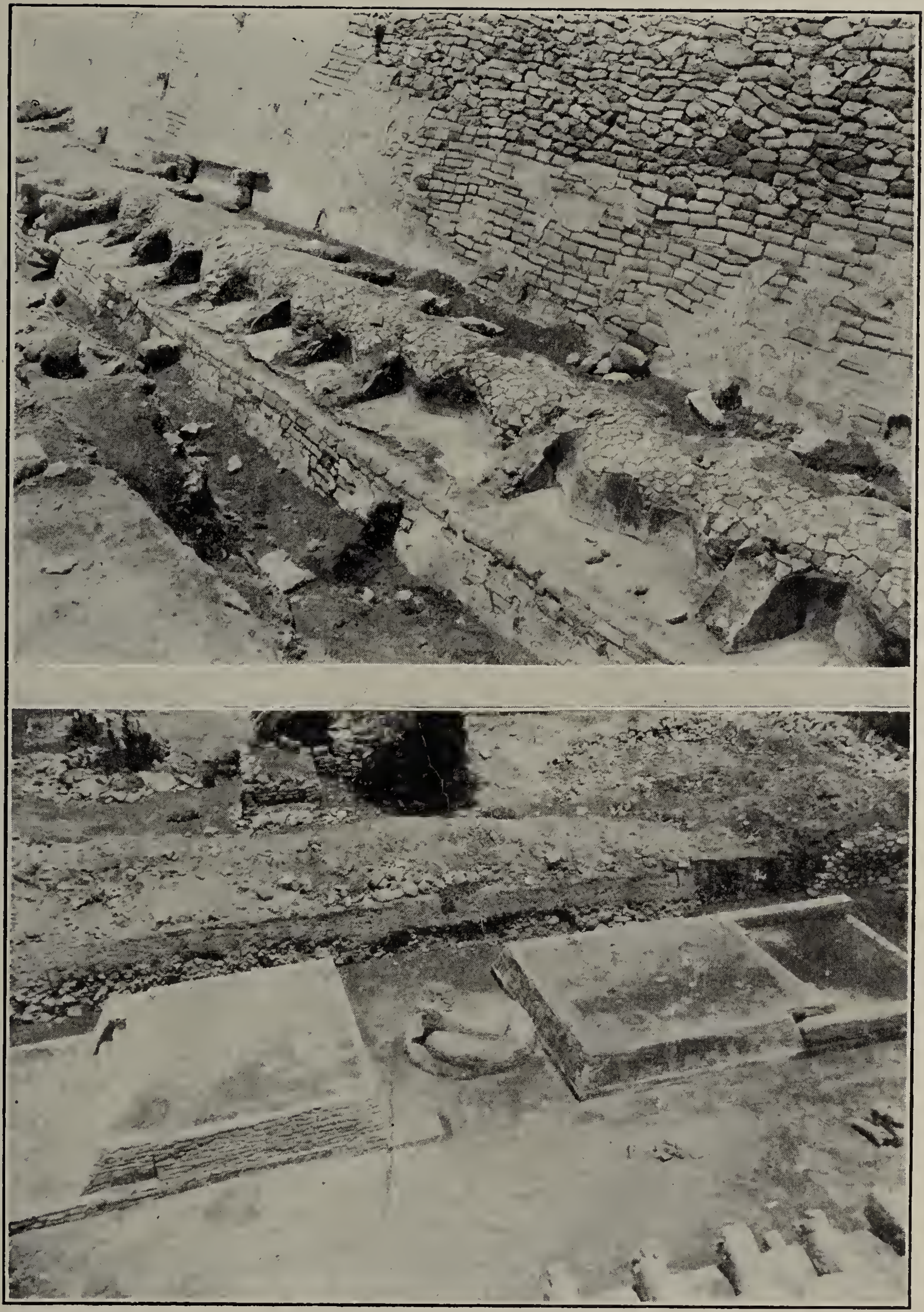


- CORTE - TRANſVERSAL - CD -

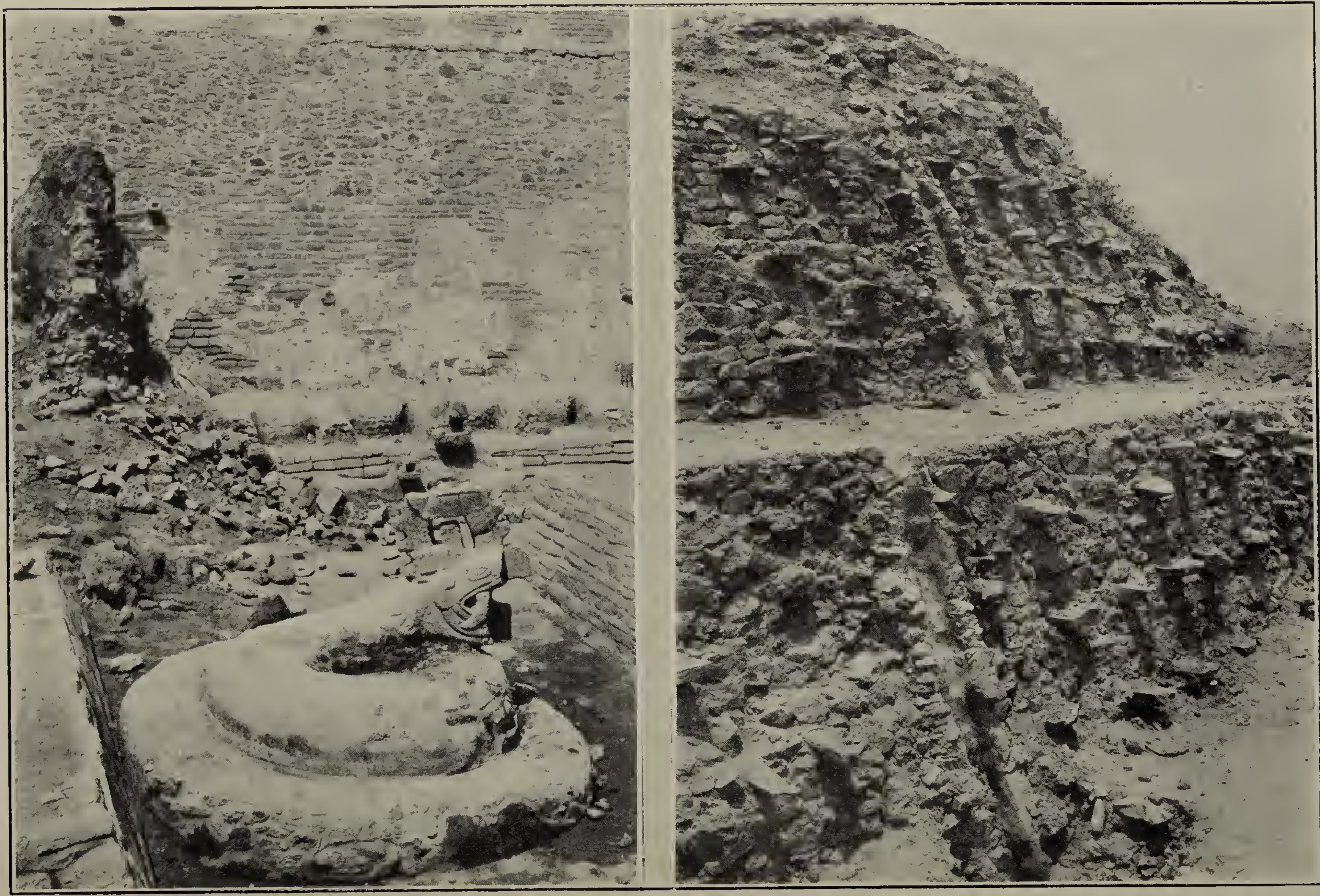


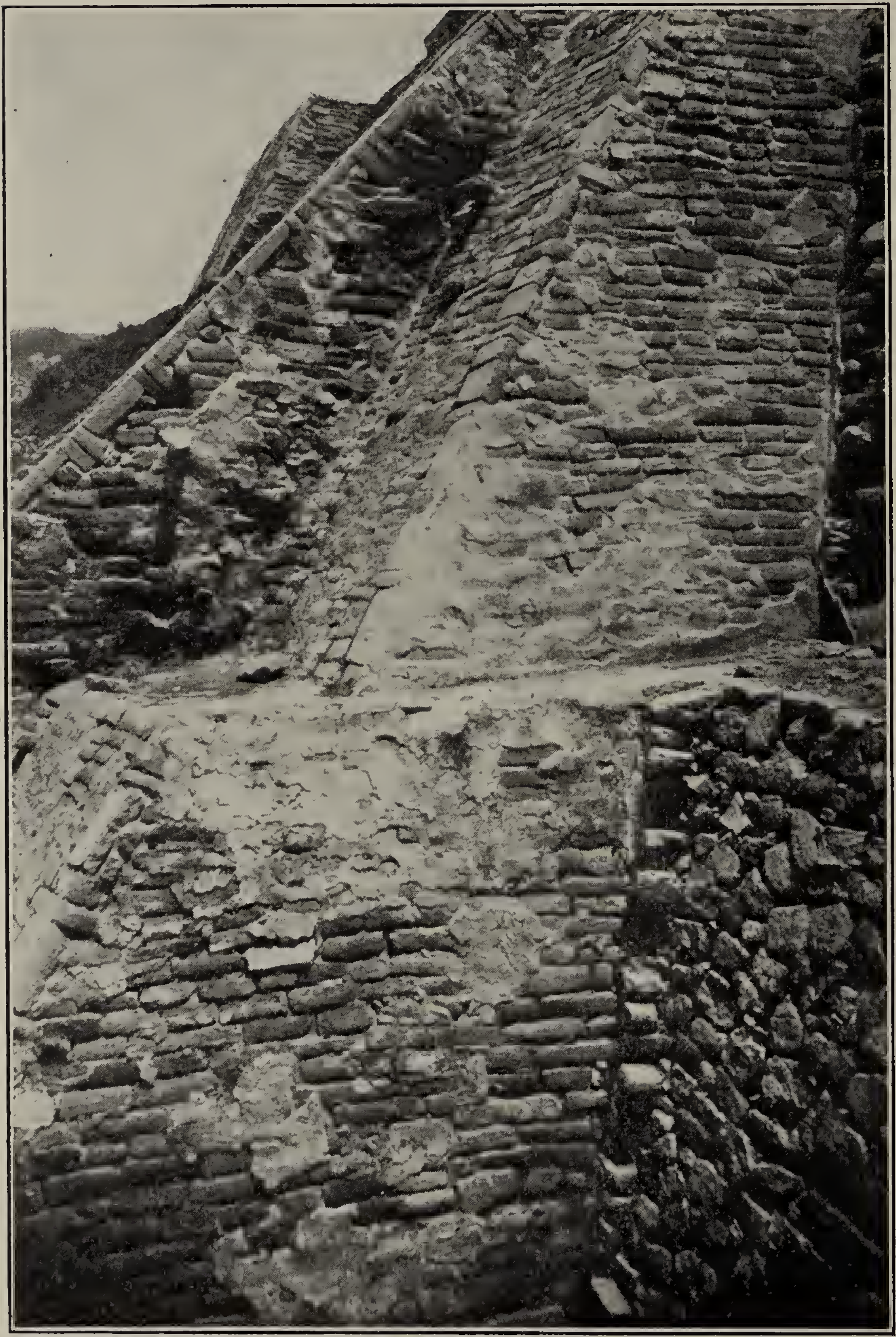






REYGADAS VERTIZ—LAMINA XIV





y sobre los paramentos de piedra labrada que aun quedan existían tambien cabezas de serpiente empotradas, a manera de clavos decorativos. La parte superior está desprovista de piedra labrada y solamente por el lado S. puede verse el resto de una construcción primitiva, a la que falta el revestimiento (Lám. XIVb). En la meseta superior existen restos de piso que seguramente correspondía al templo y enfrente de cada uno de los lados N. y S. y a 5 mts. de distancia se encuentran serpientes enroscadas con cabezas deprimidas lateralmente y un penacho ornamental, con la circunstancia de que la del lado N. ve hacia el N.W. y la del S. hacia el S.W., tal vez sirviendo de señal a puntos especiales. Junto a estas serpientes se encuentran pequeños altares.

Distintas Épocas de la Construcción. Surge desde luego la necesidad de averiguar qué etapas se presentan en la construcción, es decir, cuántas superposiciones se llevaron a cabo en el edificio, pues el hecho salta a la vista, y salvo los datos que arroje la exploración interior que se llevará a cabo tan luego como termine la exterior, hasta ahora parece que hubo[2]:—

1/o. Un templo primitivo al que pertenecía la estructura que se ve en la fotografía, correspondiente a la parte superior por el lado S. Esta estructura se conserva hasta el extremo W. en que da vuelta y donde puede verse que los aplanados entran detrás de la escalera principal. (Lám. XV.)

2/o. A este templo se le adosó, por el lado W., la escalera primitiva con los ángulos del lado Sur que formaban la solución del ángulo S.W. y que probablemente existían también en el N.W.

3/o. A este conjunto y por los lados N., E. y S. se le agregó otro edificio, que es el que ahora aparece con la banqueta de cuerpos de serpiente, tal vez utilizando en esta época la escalera principal de la segunda época.

4/o. Finalmente, hacia el W. se agregó la escalera exterior actual y a esta época pertenece el altar de calaveras y los pisos del ángulo S.W.

Sistema de Construcción. El sistema de construcción es semejante al de todos los edificios de la región de México: un nucleo formado por piedra y material arcilloso con fragmentos de laja como amarre y un revestimiento de piedra, en este caso labrada, recubierta de aplanado blanco. La decoración, como se ve, tiene como motivo principal la serpiente, y el altar del ángulo S.W. presenta motivos ornamentales semejantes a los de Tizatlán.

Cerámica. La cerámica y objetos procedentes de la excavación están siendo cuidadosamente clasificados y serán objeto de estudio especial tan pronto como el trabajo termine.

Características Arquitectónicas. Las características arquitectónicas principales del edificio son las mismas que las de la Pirámide de Cuernavaca y las de Santa Cecilia, pues como se ha dicho antes, presentan grandes semejanzas y forman un grupo de estructuras representativas de la arquitectura azteca en la región de México. Algunas construcciones de Cempoala y El Castillo de Teayo en Veracruz, presentan características semejantes y de éstas las principales son las siguientes:—

1/o. Taludes con muy poca inclinación respecto a la vertical.

---

[2] En estos momentos se practica un túnel de exploración, y ya se encontró otra pirámide primitiva en el interior. Los detalles se publicaran en la monografía.

2/o. Clavos decorativos en los taludes formados por cabezas de serpiente o bien en forma de simple cilindro.

3/o. Espacios muy angostos entre los taludes, impropios para usarse como pasillos.

4/o. Escalera dividida en dos por una doble alfarda.

5/o. Las alfardas centrales presentan dos cambios de pendiente a determinada altura, de manera que forma una pequeña meseta.

6/o. Superposición de estructuras, lo que es muy marcado en las escaleras y presentando en este punto una gran semejanza con muchos otros monumentos, principalmente con el Templo de Quetzalcóatl en Teotihuacán.

Las características generales especificadas son las esenciales de la arquitectura azteca, y la Pirámide de Tenayuca, por su importancia, por sus dimensiones y por sus rasgos especiales, constituye a la fecha, tal vez, el edificio entre los descubiertos más importante de esta civilización.

No está todavía terminada la excavación; habrá que hacer algunos túneles de investigación para ratificar o rectificar lo establecido respecto a las diversas etapas de la construcción, y entonces se hará monografía especial y de detalle de tan interesante estructura, pero este pequeño estudio he querido tener el honor de presentarlo a Ustedes, como las primicias de una exploración todavía no conocida y de la que no existe aun publicación ninguna, debiendo hacer constar que el trabajo de excavación estuvo desde un principio bajo la vigilancia directa del señor Ignacio Herrera, Inspector de la Dirección de Arqueología.

México, D. F.

THE CAUSEWAYS OF THE COBA DISTRICT, EASTERN YUCATAN

By J. Eric Thompson

THE western portion of the territory of Quintana Roo is an area that so far has received little attention from the archaeologist. Stephens heard of the ruins of Coba from his friend, the Cura of Chemax, but the distance was great and he had so many times been sent off on wild goose chases that he decided not to visit the site. The first archaeologist to penetrate this area was Teoberto Maler. Apparently Maler visited Coba, or at least the suburb of Nohoch Mul, but the only record of his trip is a solitary photograph in the Merida Museum of the temple of the diving god at Nohoch Mul.

Early on 1926 Doctor T. Gann paid a short visit of some thirty-six hours to Coba. Later in the season the Carnegie Institution sent three expeditions into the same area. The first, consisting of Doctor A. V. Kidder, two guests of the Institution, and the writer, re-discovered the suburb of Nohoch Mul and made hasty plans of Coba city. Acting on information concerning ''stone men'' that were reported to exist in the forest not far from Coba the second expedition, consisting of Mr. Jean Charlot, artist of the Institution and the writer, discovered the site of Macanxoc. Here were found eight stelae dating from the second and third quarters of the ninth cycle. The important site of Kucican, lying some ten miles to the south of Coba, was also located as well as another small site, to which the name of Nucmul was given. The third expedition, consisting of Doctor S. G. Morley and the writer, checked up the dates at Macanxoc, obtained new readings, made rough plans of Macanxoc, and carried out a little excavation to enable the styles of architecture at Macanxoc to be fixed.

Coba itself lies some forty-three miles east-south-east of Vallodolid. The visitor to this area can not fail to be impressed by the giant causeways that join Coba and the other principal cities of the district. They are indeed a striking monument to the immense patience, engineering skill, and industry of the Maya people.

Altogether seven of these great raised roads were observed by the writer and two more were reported by reliable Indian hunters, who were well acquainted with this area. They vary considerably in length, breadth, and height. Often too they fork. The widest encountered was that which joins the city of Coba to Macanxoc. This has a breadth of sixty feet, but for most of its length it is only raised a foot or so, though when passing swampy land it attains, in places, a height of eight feet. The causeway connecting Coba with Nucmul and Kucican for long stretches maintains a height of twenty feet, although passing over high land. Near Kucican two passageways with vaulted roofs were discovered beneath the road, allowing free communication between the area on both sides. This causeway has the added interest of possessing three branches. About a mile south of Coba City a branch, which would appear to start somewhere in the neighborhood of Macanxoc, converges on the main causeway which in its turn originates on the southern shore of Lake Coba. The two roads approach each other at an angle of about thirty-five degrees. At their junction is a small building which forcibly reminds one of the old toll gates. A couple of miles farther on a branch to Nucmul diverges to the left. The main road keeps straight on until it reaches Kucican nearly ten miles south of Coba. A few hundred yards before reaching the city it is crossed at right angles by yet another causeway.

The causeway of greatest length, however, is that which approaches Coba from the west. Doctor Gann has described his trip along this causeway in *Mystery Cities.* The writer traversed this causeway for a distance of more than ten miles without reaching the western terminus. However there seeme ground for believing that this lies at Yaxhuna, a small site a few miles southwest of Chichen Itza. The style of architecture here is similar to that found at Coba and presumably the site dates from the same period.

Starting from the foot of the Castillo at Coba City, the causeway sweeps around in a wide arc to join a branch road which appears to start from the suburb of Nohoch Mul. From the junction it runs west at an angle of 275 degrees magnetic. It is thirty feet wide and averages about three and a half feet in height, though when passing through low swampy land, the road, which never dips, reaches a height of eight or nine feet. Along this causeway Doctor Gann discovered three small blocks of limestone inscribed with dates. Unfortunately, they were too worn to allow of any certain reading.

The sides of all the causeways are bordered with large limestone blocks forming perpendicular sides. The blocks are roughly squared but of no uniform size. The beds of the causeways seem to consist of large boulders and rubble, in fact, the usual Maya fill. Over this was placed a layer of small stones set in mortar, and on top of all there was originally, in all probability, a plaster floor, though of this, owing to the ravages of time, no traces were found. As already mentioned the causeways do not dip when low land is crossed; however, when rising ground is reached no attempt is made to cut through its surface, the causeway following the rise of the land. Buildings and *chultunes* are frequently encountered at the sides of all the causeways.

In view of the complete absence in pre-Columbian America of wheeled traffic or of pack animals of any kind, outside the Andine area, it is difficult to understand the object of raised roads of such width. For foot traffic a causeway six feet wide would have been ample. Such a road would too have sufficed for the conveyance of the nobility in those litters familiar to us from designs on pottery from the Alta Vera Paz Area or from figurines from Lubaantun. The only surmise one can make is that they were constructed primarily to serve for elaborate religious or civil processions from one center to another. This suggestion would account for the absence of cuttings through the higher ground. Undoubtedly, the effectiveness of some great ceremonial procession would have been seriously diminished by the disappearance of the participants into a cutting where only the tops of their headdresses were visible to the spectators. The presence of small stelae too would seem to support this contention as to the primarily ceremonial purpose of these immense paved highways.

Although there is no direct evidence as to the age of the causeways, there is a certain amount of indirect evidence to enable this point to be settled. Macanxoc, the terminus of one causeway, dates from at least two periods, that of the stelae, from 9.9.0.0.0. to 9.12.0.0.0., and a second period, that of the buildings. These from their general resemblance to the Tulum style and the presence of fragments of late types of incensarios, can be placed with some certainty at the close of Maya history not long prior to the arrival of the Spaniards. Coba presents the same problem of at least two periods of occupation. The stelae, although too worn to yield any date, show very close stylistic similarities to those of Macanxoc and there seems little reason to doubt that they are of the same period. Furthermore, the architecture affords evidence that the city was at its height during the second half of cycle nine. The majority of the buildings are of the residential type. Long double ranges of rooms are grouped around a series of rectangular adjacent courts. Usually the courts are entirely closed, but in some cases one side is left open or only partially closed by a detached building. The temple type of structure is somewhat rare. It is exemplified by small one-chambered buildings on the top of lofty and steep pyramids. The castillo at Coba City is typical of this group. On top of a pyramid some eighty feet in height is perched a small chamber, measuring internally nine feet by four, with very thick walls. The whole is strongly reminiscent of Tikal. The walls and roofs of the buildings are constructed of rough, almost undressed thin slabs of limestone deeply tenoned in. No attempt was made to smooth off the irregular projections as they were covered with liberal coatings of stucco.

A variety of the vaulted arch that occurs also at Uaxactun is met with here. This consists of two deep offsets from the side walls forming large inverted steps. Above is a small section with the usual slope of the vault to the bridging slab. The medial cornices of the Coba buildings are formed by a single element, consisting of a thin slab of limestone that projects up to two feet from the wall. Occasionally the cornice consists of two thin slabs of equal size which, when coated with stucco, would have appeared to be a single slab. An idea of the massiveness of these buildings can be gathered from the fact that frequently the cornice passes right through the wall to form the bottommost projection of the vault. This is in strong contrast to the western Yucatan style where the face stones are nothing more than a showy veneer adding no strength to the building.

However there is one building that does not conform to this general Peten ninth cycle style. This is the temple of the diving god at the suburb of Nohoch Mul, which is in regular late east coast style. On top of a pyramid eighty feet high the building is approached by a stairway that divides at the top in a manner very similar to that of the great wall at Tulum. On the façade in niches are three figures of the diving god. The stonework too is different from that of the other buildings in the neighborhood. The stones are squared and not deeply set into the walls. The cornices are two in number and are formed by double rows of squared stones projecting only a short distance from the wall.

It will be seen then that at Coba, as at Macanxoc, we are dealing with at least two periods. An occupation that was very prolific in buildings and a second which has left behind few surface traces. Doctor Gann in *Mystery Cities* reports the discovery of the remains of a flat roof building in Coba City. The writer made a special point of examining this structure in the course of his third visit to Coba and he is convinced that what Doctor Gann had taken to be the slabs of a flat roof were the cornices of four small building that were grouped around an interior court in the usual Coba style. All four buildings have their roofs still partially standing and the heights of the cornices that face outwards can be seen to correspond to those that face on to the inner court. Furthermore, there are no holes below into which the wooden beams would have been fitted had there been a flat roof over the inner court.

It has already been stated that one of the causeways terminates at the City of Kucican. The buildings here are, without exception, in the same Peten style already noticed at Coba. Unfortunately no stelae were discovered here, but a couple of sculptured heads were encountered that on stylistic grounds can be assigned to this same period. The city of Nucmul was only hurriedly visited but all the buildings seen were in the same Peten style.

Thus the causeways link up four cities, two of which appear to be of pure ninth cycle Peten style, while the other two date from more than one period, but with this same Peten style dominating. Yaxhuna, the probable western terminus of the great causeway, is in the same style. The evidence then goes to show that these great roads were constructed at the time when the Maya were reaching their first peak of civilization in the third quarter of cycle nine.

Field Museum of Natural History,
Chicago, Illinois.

THE EXCAVATIONS AT UAXACTUN

By Oliver Ricketson, Jr.

UAXACTUN is a Maya ruin lying in the north-central portion of the Peten District of Guatemala. It was first discovered by an expedition sent out in 1916 by the Carnegie Institution of Washington under the direction of Doctor S. G. Morley. It has been re-visited on several occasions by the Institution's expeditions, the most important visits being those of 1923, when the exact longitude and latitude of the site were determined to within one quarter of a mile, and in 1924, when it was accurately mapped. In 1926 the Carnegie Institution began a five years' excavation project at Uaxactun, the primary object of which was an intensive examination of a group of structures called Group E. The first season's efforts were spent in preparing a suitable field camp and it was not until the conclusion of the second season that results of scientific interest were obtained. The third season, 1928, has proved even more productive.

Group E was chosen for intensive examination for two reasons: (1) it was considered sufficiently compact to allow thorough excavation in five years, and (2) the locations of the stelae and mounds were such that Mr. Frans Blom, in charge of the 1924 mapping expedition, believed they might have an astronomic significance.

Temples E I, E II, E III, and E VII are the astronomically significant structures in this group. It was found that an observer standing on the midline of the eastern stairway of Pyramid E VII, with his eye at an elevation of fifteen feet above the plaza level—the minimum height possible for an horizon view of the sun, because the platform mound upon which stand Temples E I, E II, and E III is fifteen feet high—would see the points of sunrise on the summer and winter solstices in line with the outer corners of Temples E I and E III, respectively. The true east-west line passes just inside the north jamb of the doorway of Temple E II. The northwest corner of the platform under Temple E II is seven degrees north of true east and the line of sight through this point marks the sunrise positions for April sixth and September sixth. This corner was used because it was one of the few exact locations determinable, the outer stone veneers of all these temples being extremely dilapidated. If we compare these dates with the dates on the stelae in this plaza, interpreting the latter according to the day-for-day correlation of Maya and Christian chronology as advanced by Doctor Spinden, we find a close approximation for the April date, as follows:—

Stela 18	8.16.0.0.0	3 Ahau	8 Kankin	April 5, 97 A.D.
Stela 19	8.16.0.0.0	3 Ahau	8 Kankin	April 5, 97 A.D.
Stela 20	9. 3.0.0.0	2 Ahau	8 Muan	April 3, 235 A.D.

Having taken the northwest corner of the platform under Temple E II for this line of sight, any error is the maximum. Any point to the south, *i.e.*, towards Temple E II, will place the date earlier in April. It has been suggested, since the difference between a 365¼ day year and a 365 day solar year amounts to just one day in one hundred and twenty-eight years, that the difference between the stelae dates 97 A.D. and 235 A.D.—138 years—might be significant.

In the opinion of the writer the significance of these lines of sight is geomantic rather than astronomic, *i.e.*, the temples were erected not as observatories, but merely to emphasize already well-known astronomic phenomena. If we grant even relative contemporaneity of the stelae and the temples this conclusion is necessary, for the hieroglyphs on the stelae show the Maya calendric system in full flower and such usual phenomena as solstices and equinoxes must have been well understood for a long time.

The work of the 1928 season was ably carried on during my enforced absence by Mr. Monroe Amsden. The season was entirely devoted to uncovering Temple E VII-sub, a structure the presence of which beneath the rough stone and rubble construction of Pyramid E VII was determined only a week before the withdrawal of the 1927 expedition. This terraced temple mound is only twenty-five feet high. Maya students here will undoubtedly see at once that nothing quite similar to it has ever before been reported; yet, the general appearance is not un-Mayan, and I believe it is safe to call it pre-Mayan. Since Uaxactun has the oldest dated stelae so far reported in the Maya Area, *i.e.*, 8.14.10.13.15 8 Men 8 Kayab, or 68 A.D. according to Spinden's correlation, we need not be surprised at the somewhat primitive character of this structure; although it lacks the sophistication of later buildings, such as those in northern Yucatan (I purposely avoid the use of the term ''New Empire'') it represents an already well-developed type of architecture.

At the invitation of the Institution, Doctor George C. Vaillant of the American Museum of Natural History visited Uaxactun during the 1928 season, as ceramic consultant. Doctor Vaillant dug three test trenches in the plaza of Group E, which exhibited no less than four plaza floors overlying an old débris bed five feet deep to subsoil. In this débris pottery fragments and skeletal material were found.

The four plaza floors, A, B, C, and D (counted from the lowest upwards), give us definite information about the relative ages of the various structures of the group. The topmost, floor D, appears to be associated with Pyramid E VII, and floors C, B, and A abut on the facings of Temple E VII-sub, but do not run underneath it. Stela 20 (235 A.D.) stands in a socket cut through floors C, B, and A, the topmost floor, D, however, being built around it. From this we infer that this floor was laid and the stela set up at approximately the same period. I cannot here discuss the details of the whole complex, and further excavation is undoubtedly called for, but we can conclude that there are at least two well-defined periods of occupation in Group E, first, a long period when the five feet of débris beneath floor A was laid down, and second, a period of stone construction above this débris bed. The latter period will undoubtedly be subdivided upon further excavation.

In the first period, we may premise an accumulation of débris on a low hilltop, followed by a leveling process which the builders of the second period no doubt carried to its ultimate conclusion. Doctor Vaillant, in speaking of the pottery from this débris, says:—

> "it lies outside the Maya tradition as known, and most closely approximates, although it is not identical with, the Q-culture forms found by Gamio at Arevallo and other forms from the Guatemala Highlands."

We also infer, from the presence of a burial high in the débris, that a period of abandonment must have intervened between the two periods of occupation.

In the second period, the construction of Group E starts with some leveling of the plaza. Temple E VII-sub was constructed and with it floor A. The function of floor B, whether connective or repairing, is yet to be determined; the function of floor C we suppose to be connective. Into floor C are set Stelae 18, 19, and 20, so that (if the stelae were set up at the time of the dates carved on them) floor A and its structures were necessarily erected prior to 97 A.D. Floor D is associated with the latest buildings. Floors C, B, and A run under the platform mound supporting Temples E I, E II, and E III, and it is extremely probable that earlier structures lie under this mound, just as Temple E VII-sub lay under Pyramid E VII. It is hoped that the 1929 season, and subsequent work at this site, will yield definite information about the stratigraphic relationship of the various structures in this group and define a type of pre-Maya culture which may be linked with early cultures in neighboring areas.

CARNEGIE INSTITUTION OF WASHINGTON,
WASHINGTON, D. C.

RECENTLY DISCOVERED MAYA CITY IN THE SOUTH-WEST OF BRITISH HONDURAS

By Thomas Gann

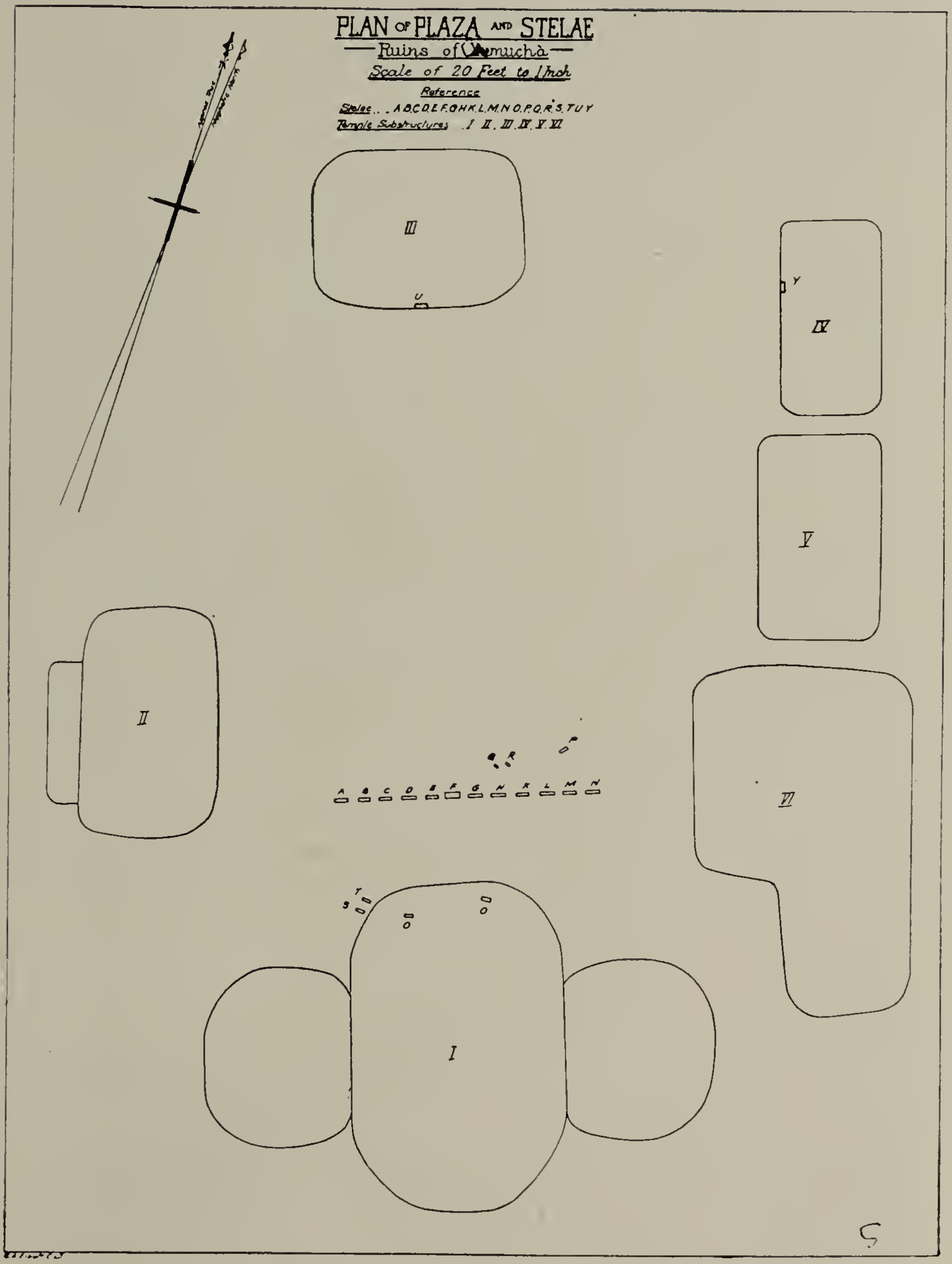
A RUINED Maya site of considerable importance was discovered, towards the beginning of the year 1927, by a Mr. Mason of Punta Gorda. It was visited later in the year by Mr. Eric Thompson, and still later by myself. I reported the matter to the British Museum, and, early in 1928, Captain Gruning and Mr. Clive-Smith were sent out to assist me, and we made a preliminary investigation of the site, turning all the stelae, making plans, taking casts, and doing a certain amount of excavation. The site was visited after this by Doctor S. G. Morley of the Carnegie Institution of Washington, by whom some further dates were deciphered on the stelae. The city is situated in the fork formed by the Pusilhà and Joventud rivers, a little over a mile before their junction to form the Mojo River. I have suggested the name Chumuchà—within or between the waters—for the site, as there is, I understand, an extensive group of ruins on the Guatemala side, at no great distance, which already bears the name Pusilhà.

The Plaza. The plaza is undoubtedly the most important structure at Chumuchà. It is a rectangular enclosure, whose long diameter runs about thirty degrees east of north. It occupies the artificially flattened summit of a small natural hill, which slopes down gently in every direction.

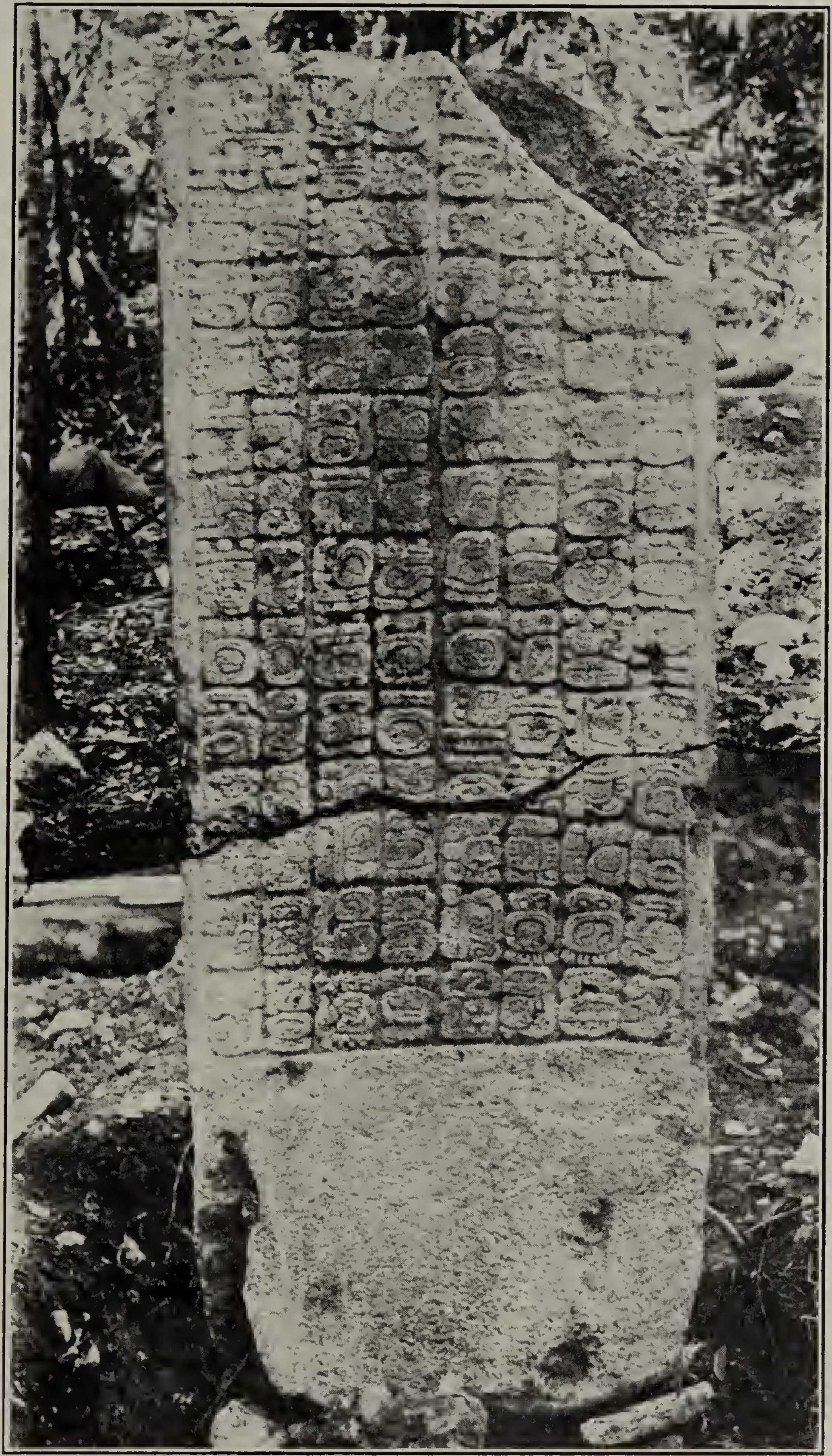
It is enclosed on all four sides by six extensive flat-topped pyramids, which had almost certainly served as substructures for the support of wooden temples, long since incorporated with the layer of vegetal mould which covers the entire site.

These substructures are now, for the most part, mere heaps of stone and earth, in the form of truncated pyramids, but here and there are visible traces of terracing along their sides, and of stairways leading to their summits, which indicate that all were formerly terraced throughout, the terraces being constructed of roughly cut slabs of stone, without the intervention of any mortar.

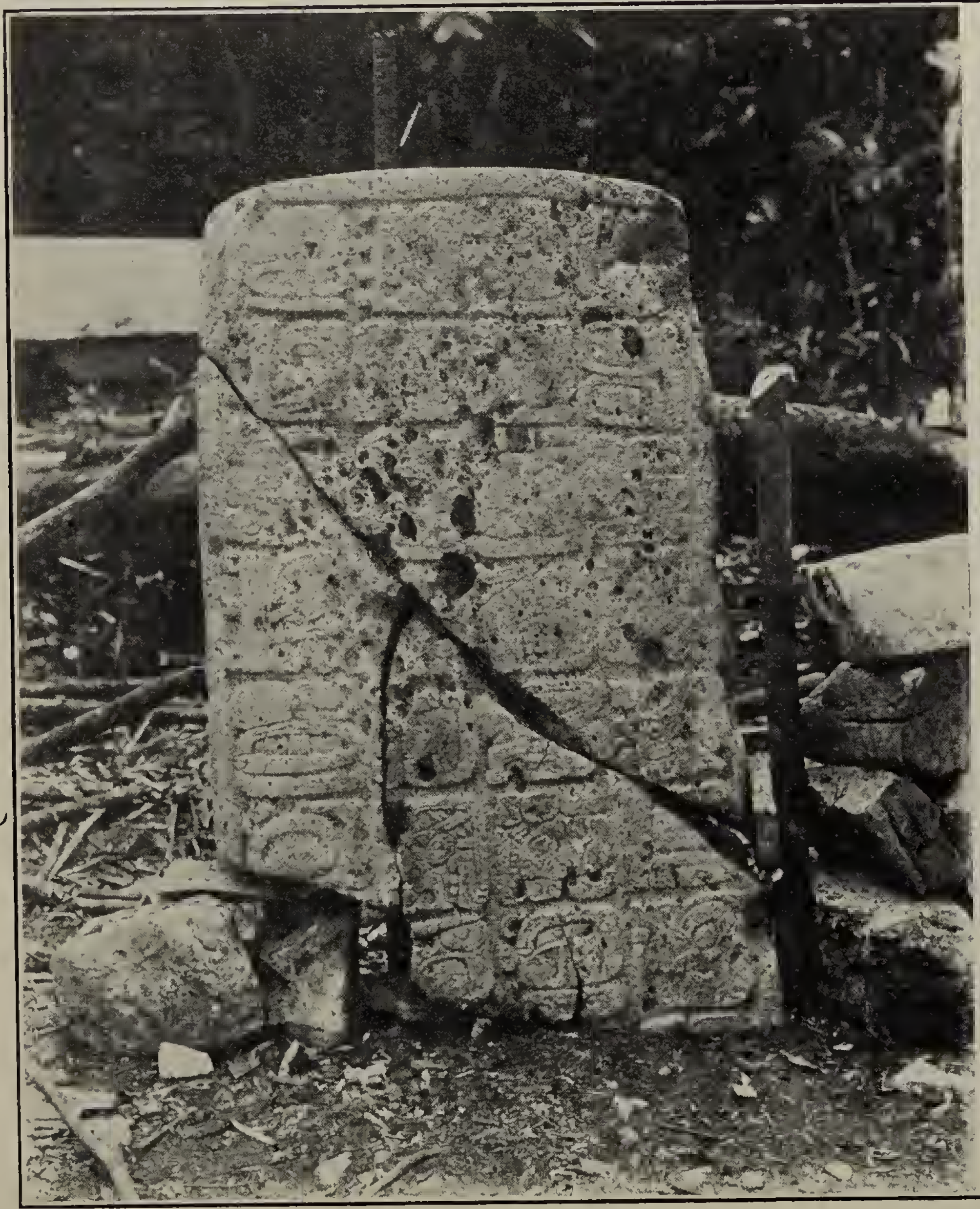
The Stelae. Twenty stelae were found at the site, not including a small fragment of one used in filling in one of the substructures. All of these were found either within the plaza itself, or upon the substructures surrounding it. Not one was unbroken, and not one in its original position. All had probably been knocked down and broken by falling trees, which is not surprising, when one considers the shallowness of the foundations upholding the monuments, as compared with those found in other Maya cities. The stelae were arranged in the following order. In a line directly in front of Substructure I, where they probably faced the principal temple, are the Stelae lettered A, B, C, D, E, F, G, H, K, L, M, and N, on the plan. The two halves of Stela O were found about midway up the north slope of Substructure I. Fragments of Stelae P, Q, and R were found


PLAN OF PLAZA AND STELAE
Ruins of Chumuchà
Scale of 20 Feet to 1 Inch
Reference
Stelae . . . A.B.C.D.E.F.G.H.K.L.M.N.O.P.Q.R.S.T.U.Y
Temple Substructures . I. II. III. IV. V. VI.
Magnetic North
I
II
III
IV
V
VI
A
B
C
D
E
F
G
H
K
L
M
N
O
P
Q
R
S
T
U
Y

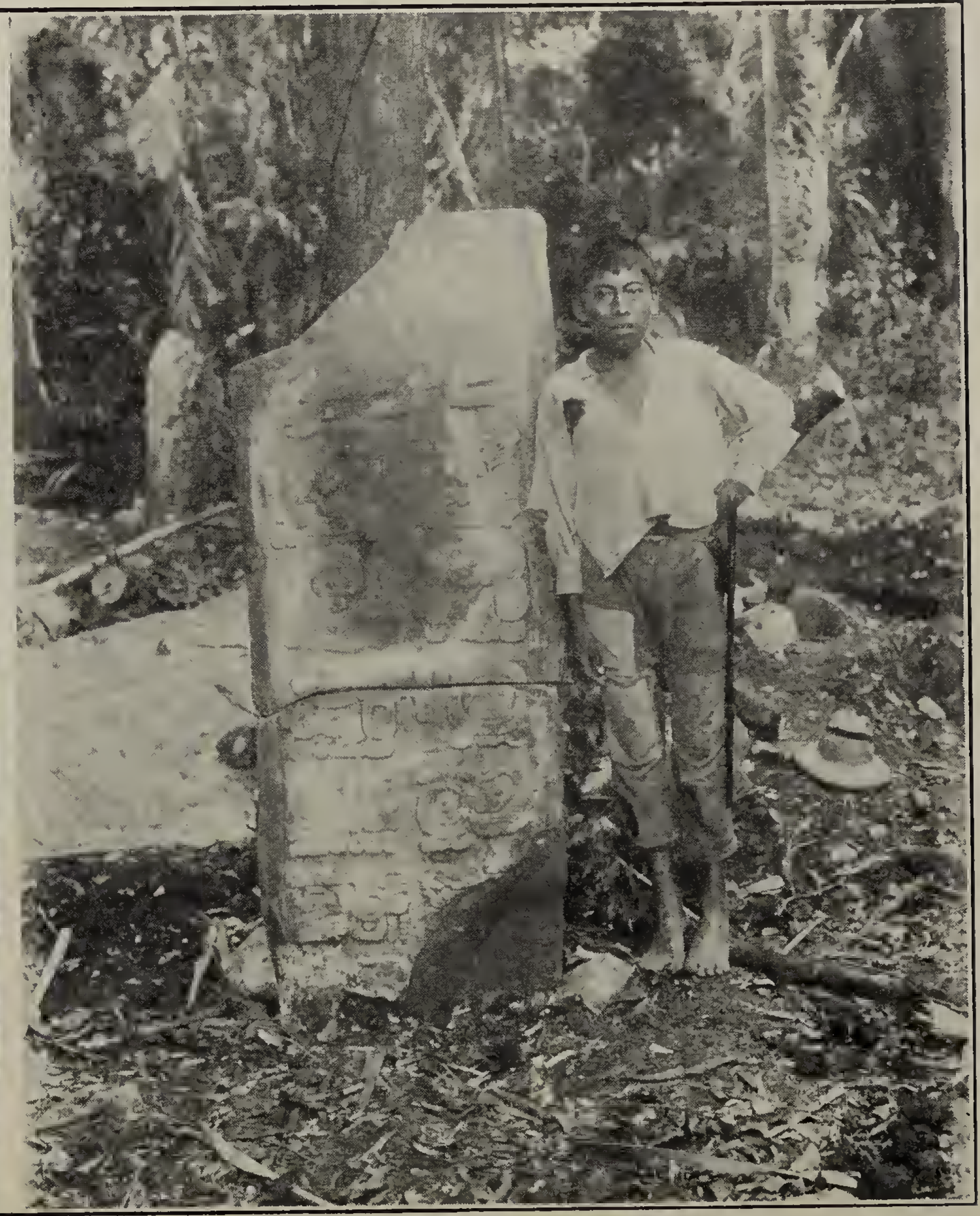
PLAN OF THE PLAZA, CHUMUCHÀ



STELA D, CHUMUCHÀ



STELA M, CHUMUCHÀ



STELA O, CHUMUCHÀ

in the plaza close behind the main line of stelae. Stela U stood upon the summit of Substructure III, and Stela V on the summit of Substructure IV.

The earliest contemporaneous date found was on Stela O, 9.7.0.0.0., 7 Ahau, 3 Kankin, the latest, 9.15.0.0.0., 4 Ahau, 13 Yax, on Stela E. This means that, on the evidence of the surviving dates alone, the city was occupied for a period of at least 7 *katuns,* or one hundred and forty years, and probably for a great deal longer, as it is hardly probable that the erection of stelae to commemorate *katun* endings would have commenced immediately after the city was founded, or that the entire population should have deserted the site immediately after the erection of the last stela.

The dates found recorded on the stelae are as follows:—

		Dates in the Christian era according to Spinden's correlation
Stela D.	9. 8. 0.0.0	Oct. 26, 333 A.D.
	9.10.15.0.0.	
Stela E.	9.15. 0.0.0.	Oct. 22, 471 A.D.
Stela F.	9. 9.13.0.0.	
Stela H.	9.11. 0.0.0.	Dec. 15, 392 A.D.
	9. 7.12.6.7.	
Stela K.	9.12. 0.0.0.	Sep. 1, 412 A.D.
Stela M.	9.14. 0.0.0.	Feb. 3, 452 A.D.
Stela O.	9. 7. 0.0.0.	Feb. 8, 314 A.D.
Stela Q.	9. 8. 0.0.0.	Oct. 26, 333 A.D.
Stela Y.	9. 7. 0.0.0.	Feb. 8, 314 A.D.
	9.10.15.0.0.	

Stela C. Upon this stela is sculptured a life-sized human figure, with elaborate feather decorated headdress, earplugs, and nose ornament. Round the shoulders is seen a small jewelled cape, or cloak. The arms are folded across the chest, against which they hold an elaborate ceremonial bar, to each end of which is affixed a grotesque face; a broad belt is worn round the waist, on the front of which is seen a grotesque human face, with open mouth, and staring eyes, and on each side the same face, in profile, showing the immense nose, and fang curving backwards from the angle of the mouth. It would appear that on all the stelae, except Stela F, human figures were originally sculptured on the sides facing the plaza. Most of these, however, have fallen with this side upwards and exposed to the weather, and the figures are now hardly distinguishable.

Stela D. On this stela is clearly recorded 9.3.0.0.0. Doctor Morley is of opinion, however, that the *katun* coefficient should be 8, the bar having been accidentally omitted, as the month sign of the Initial Series terminal date, 3 Chen, is seen following glyph A of the supplementary series, and in A.8. is recorded *katun* 8, followed and preceded by an ending sign.

A second Initial Series is found on this stela, 9.10.15.0.0., recording the contemporary date.

Stela E. Five fragments of this stela were recovered. On the topmost is recorded the Introducing glyph. Below this, in A.2., the four dots of the coefficient of the missing *Baktun* sign are discernible. Of the *katun* coefficient but one bar remains, indicating either 5, 10, or 15. On the second fragment, 0 Tuns, 0 Uinals, and 0 Kins are plainly recorded. On the fourth fragment the day Ahau, from which the coefficient has been lost, and the month 13 Yax are recorded. On the fifth fragment, 15 *Katuns* are recorded. The entire date is probably 9.15.0.0.0., 4 Ahau, 13 Yax.

Stela F. This is the largest monument at the site, measuring 16 ft. in length, 4 ft. 2 inches in breadth, and 1 ft. 8 inches in thickness. It has fallen with the only sculptured side up, so that little but the outline of the glyph blocks could be made out with any degree of certainty. It does not record an Initial Series date, but may possibly record 3 Ahau, the end of Tun 13, which can only occur once in Baktun 9, namely at 9.9.13.0.0.

Stela H records very clearly 9.11.0.0.0., the contemporaneous date, and further on in the inscription is seen the date 9.7.12.6.7.

Stela K records very clearly the date 9.12.0.0.0.

Stela M records the Initial Series 9.14.0.0.0.

Stela O records the Initial Series 9.7.0.0.0

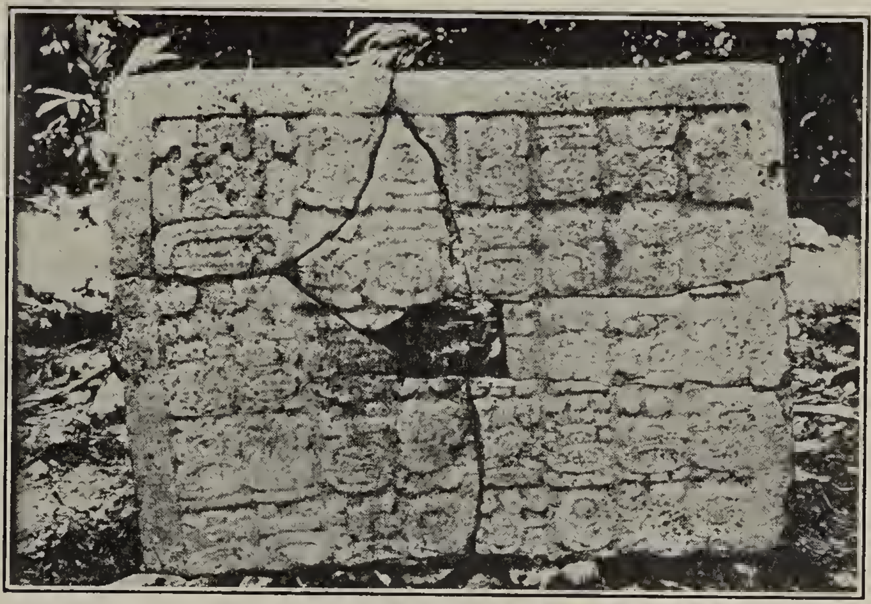
Stela Q. Upon the only fragment found of this stela were three glyphs in a vertical row. The uppermost, which is partly broken away, appears to record 8 *Katuns,* the middle is undoubtedly 0 *Uinals,* and the lowest probably 5 Ahau. We may assume that the *baktun* coefficient is 9, and it seems probable that the Initial Series date recorded is 9.8.0.0.0., 5 Ahau, 3 Chen.

Stela Y. The first Initial Series date recorded upon this stela is 9.7.0.0.0., further on in the inscription, however, are recorded 10 *Katuns,* 15 *Tuns,* 0 *Uinals,* and 0 *Kins.* It is probable that the introducing glyph and the *baktun* glyph have been broken away from the bottom of the two preceding columns and that the Initial Series recording the contemporaneous date is 9.10.15.0.0.

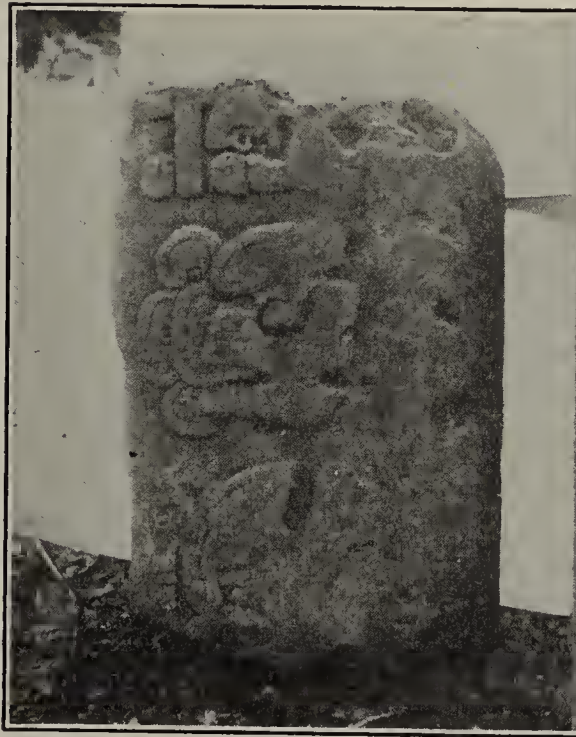
The Altars. In front of Stela E and H were found small altars, crudely sculptured to represent frogs with human faces; in front of Stela D was found an altar in the shape of a flat circular disk of stone. In addition to these, however, two other fragments of frog-shaped altars were found, buried beneath the humus covering the plaza floor, together with numerous fragments which appeared to have belonged to flat round altars, and it is not improbable that beside every stela there stood originally a small crude altar.

The Eccentrically-Shaped Objects. Beneath and around the bases of the stelae were found nearly eight hundred objects of flint and obsidian. Many of these were knives and cores of obsidian, but objects of almost every conceivable shape, crosses, rings, crescents, etc., were also found in great abundance.

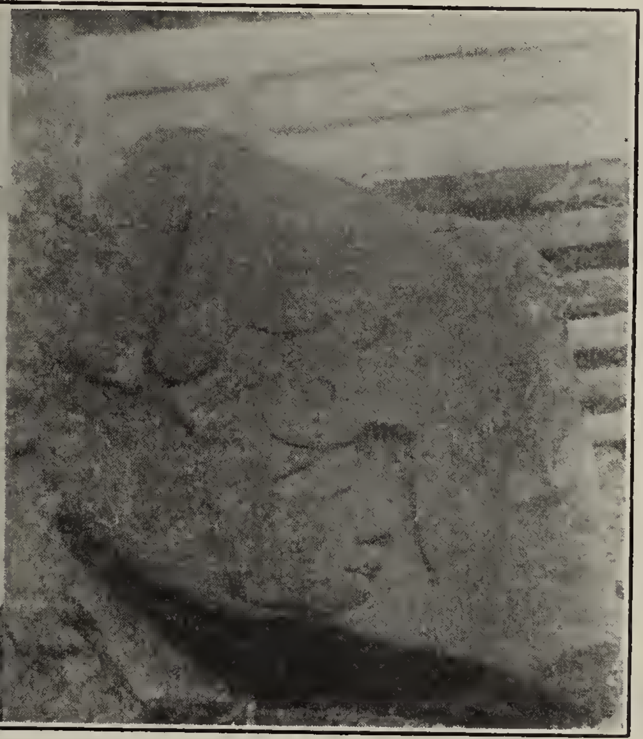
The Terraces. On each side of the Pusilhà River, perhaps half a mile from the plaza, stand ranges of low natural hills. Those to the south of the river run parallel with its banks for several miles, reaching a height approximately of 250 feet. Those on the north side are shorter and lower. The hillsides facing the river, particularly on the south side, have been terraced by the construction of walls built of uncut blocks of limestone. The terraces vary greatly in width. In some places they are quite narrow, in others they expand into plazas and open spaces capable of holding a considerable number of houses. Upon the summits of these ranges of terraces has been constructed a system of quadrangular substructures, of varying size, whose sides are faced with blocks of uncut stone. At the back of the ranges are found, in certain places, great aggregations of potsherds, broken rubbing stones, flint chips, and other indestructible rubbish and



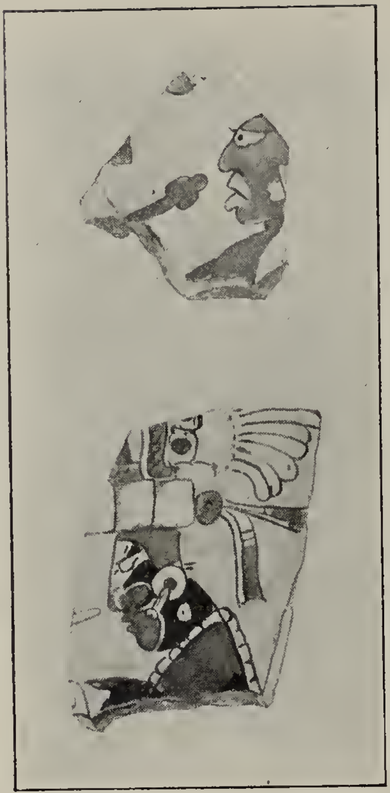
STELA Y, CHUMUCHÀ



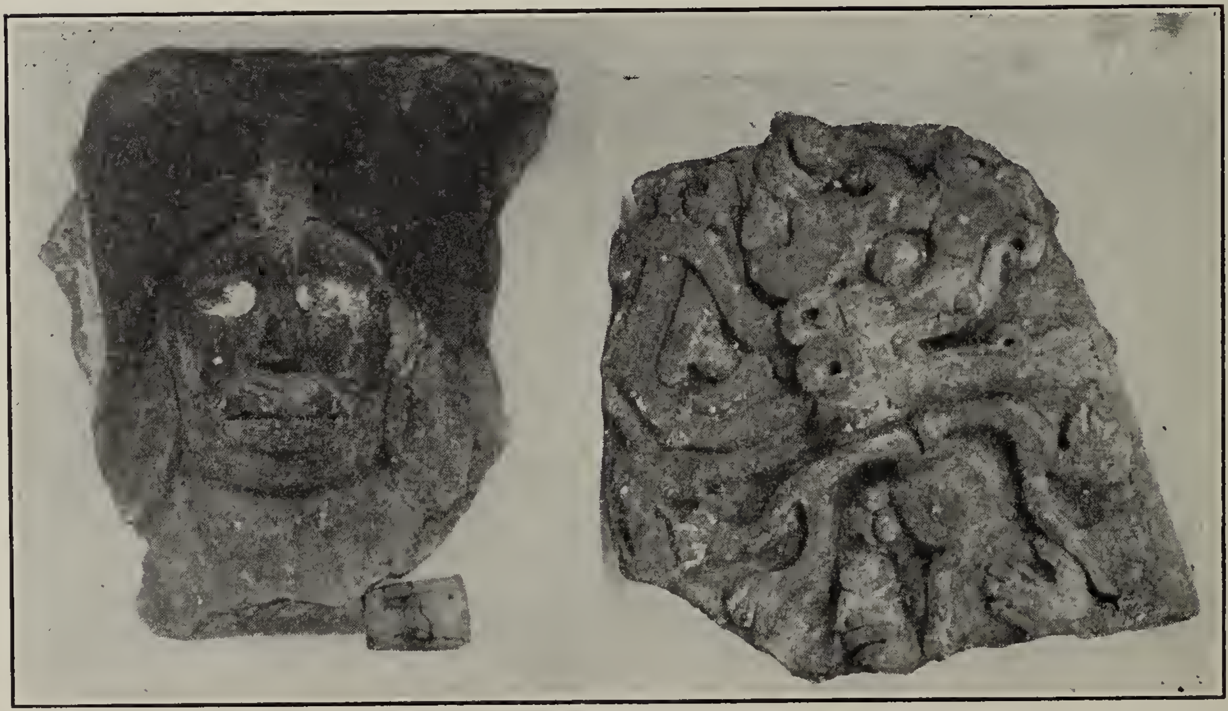
STELA Q, CHUMUCHÀ



HEAD AND HEADDRESS FROM THE FRONT OF STELA R, CHUMUCHÀ



FACE PAINTED ON BEAUTIFUL POLYCHROME POTTERY FROM A CAVE CONTAINING REFUSE, CHUMUCHÀ



HEAD FROM INCENSE BURNER FOUND IN CAVE CONTAINING REFUSE AND PART OF AN INCENSARIO FROM THE CAVE RUBBISH, CHUMUCHÀ there can be but little doubt that these terraces were used, not for agricultural purposes, for which they are entirely unsuited, and which, owing to the practically unlimited amount of good agricultural land in the vicinity would be quite superfluous, but as sites for the erection of the wooden houses and buildings of the ancient inhabitants.

The Bridge. Probably the most remarkable structure at the site, and one, so far as I am aware, unique within the Maya area, is the bridge, or rather remains of a bridge, across the Pusilhà River. This is situated some half a mile from the plaza and was obviously meant to connect the northern and southern terraces. It consists of two stone abutments placed opposite to each other on the northern and southern banks of the river, with a spillway on each side to carry off flood water. Originally there must have been not one bridge but three; one extending across the river from one abutment to another, and one on each side of this, bridging the spillways. The abutments are constructed of large blocks of limestone. Each measures 75 feet in length at the base, 55 feet at the top. The breadth of each, to the spillways, is 32 feet, and the height, approximately 15 feet.

The spillways, curved channels running on the outer sides of the abutments, above and below which they open into the river, are paved throughout with neatly fitted blocks of limestone. The openings of each were 7 feet above the river level at the time of our visit, so that they could not come into operation till the river had risen at least 7 feet above its then level.

The river above the abutments was approximately 20 yards wide, between them, 10 yards. Below them, it expanded into a small and very deep lagoon, perhaps 80 yards across.

The depth of the water between the abutments varied from 6 to 10 feet. This bridge must have been very necessary to the inhabitants, as the river is subject to extremely heavy and sudden floods, during which communication between its two sections would have been almost impossible.

The Caves. Along the base of the terraces, in the sides of the limestone cliffs which adjoin them, and even on the floors of the terraces themselves, were found great numbers of caves, some of them of considerable extent, others mere crevices in the rock. These seem to have been used partly as refuse heaps for the deposition of rubbish, as potsherds, flint and obsidian chips, broken implements and weapons, fragments of rubbing stones, etc., were found within them, and partly as burial places, for human bones in a poor state of preservation were found by us in three of them. The most interesting cave was situated at the base of the limestone cliff on the north side of the bridge, and not very far from it. It commenced as a small circular chamber, some 12 feet in diameter, from which branched out two narrow passages and it was in the exploration of one of these that the most important results were obtained. The floor of the little chamber was composed of earth and large blocks of limestone, and the passage to the right was filled almost to the roof with the same material, to a depth of nearly 6 feet. From the bottom to the top, this earth and stone layer contained enormous quantities of material, potsherds, flint and obsidian chips, and broken implements, pieces of incensarios, broken rubbing stones, shells, animal bones, etc. The sherds were for the most part those of unpainted, undecorated domestic ware, but many of them were those of beautifully painted and incised ware, decorated with human figures, hieroglyphs, and geometrical devices.

It seems probable that this cave had been used as a depository for rubbish for many centuries, and it is to be hoped that on further exploration it will yield a stratigraphic picture of the potter's, painter's, and sculptor's arts, from the earliest to the latest times. Recognizing the importance of this find, the greater part of the contents of the cave was left undisturbed, till it could be more carefully dealt with during another field season.

Mounds. Great numbers of mounds of all sizes were found scattered throughout the entire site. Some of the smaller ones were opened, and were found to be for the most part substructures for the support of small houses. A few burial mounds were also opened, in which most of the bones were in an advanced state of decay.

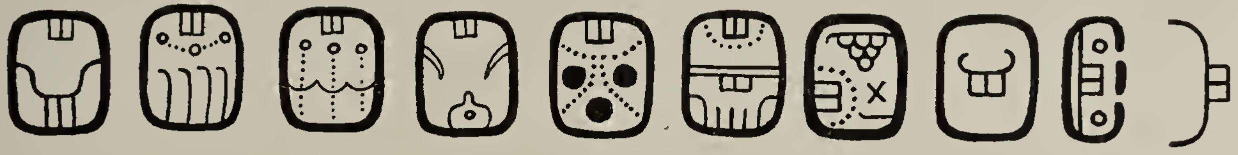
The most important objects unearthed with the burials were small clay figurines, almost exactly similar to those found at Lubaantun, proving conclusively the contemporaneity of the two places, and the close intercourse which must have existed between them. A very fine, nearly life-sized mask, cut from hard limestone, was found with one of the burials. A great deal of work remains to be done at this site, and a thorough exploration of the caves and mounds will provide work for a gang of laborers, extending over a number of years. The considerable expenditure necessary for this project will, in my opinion, be amply justified by the very important results which are likely to be obtained from the thorough exploration of this exceedingly compact little Maya city.

Belize, British Honduras.

THE INFIX IN MAYA HIEROGLYPHS
INFIXES TOUCHING THE FRAME

By Herman Beyer

THE elucidation of those Maya conventional signs that are not human or animal heads has not been far advanced, although in other directions the decipherment of the glyphs has produced the most astounding results. The principal reason for the failure along this line is, in my opinion, the erroneous presupposition that the characters represent simple and single objects. There seems to be a tacit agreement among the authors to regard the uncomprehended sign as the conventional form of some natural entity and then to try to find a more or less similar representation in the pictorial part of the codices that will serve as an archetype for the glyph in question. Thus, for instance, the day sign Imix is generally taken for a calculiform drawing of the female breast, because the hieroglyph shows a certain resemblance to it. In the same manner, the day sign Kan is determined as maize, although in this case some archaeologists think they recognize in it the conventional form of a single grain, while others, with equal ease, conceive it as a whole ear of the plant.


1 2 3 4 5 6 7 8 9 10

Figs. 1–10—hieroglyphs containing the element ''two teeth''. standardized forms in the manuscripts

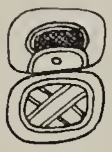
Now, comparing the sign Kan (Fig. 1) with other Mayan characters (Figs. 2–10) we see that there exist at least nine more hieroglyphs that have a part of Kan in common. This circumstance seems to indicate that the detail resembling two teeth is an element that enters into different combinations. We might call such a detail, put into the interior of a main glyph, an ''infix,'' as proposed more than thirty years ago by Brinton.[1] That infixes occur is still more clearly shown by the head glyphs which have hieroglyphic elements in the eyes (Figs. 56–58 and 63) and in other parts (Figs. 19, 20, 24, 51–65). Although Brinton used the term ''infix,'' he did not elaborate on the subject in more detail, nor has more been said on this theme since.

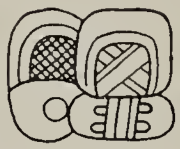
Before we start to analyze the conventional hieroglyphs with the idea of determining their infixes, we must discuss a peculiarity of Maya glyphic writing that will enable us to understand a very characteristic feature of the elements used within a main glyph.

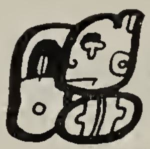
With the exception of the day signs and some month signs, a Maya hieroglyph very seldom appears alone. Generally, one or more affixes accompany it; even in the case of the chronological characters, the numbers that are put before or over them take the place of the affixes and are, indeed, treated according to the same rules. The affixes are mostly main glyphs compressed and somewhat simplified in order to occupy a narrow space. In many instances the affix loses its outline and part of its substance on the side that touches the black contour, the frame, of the main glyph.

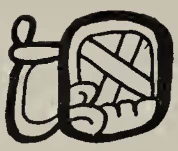
---

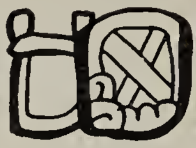
[1] Brinton, Daniel G., *A Primer of Mayan Hieroglyphics,* Boston and Halle a.S., 1894, p. 81.

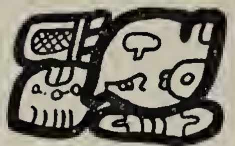

11

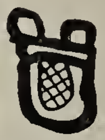

12


13


14

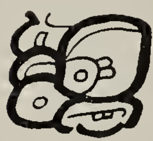

15

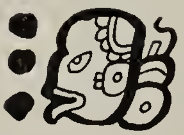

16

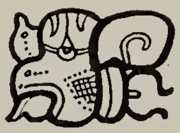

17

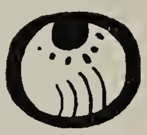
Figs. 11–13—hieroglyphs with ek, "black": Fig. 11, piedras negras, stela 3; Fig. 12, yaxchilan, lintel 31; Fig. 13, dresden codex, p. 33c
Figs. 14–16—hieroglyphs with fishing net: Fig. 14, dresden codex, p. 35a; Fig. 15, dresden codex, p. 34; Fig. 16, dresden codex, p. 60
Fig. 17—detail (fishing net) of Fig. 16

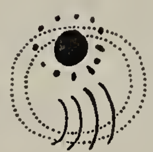
In Fig. 11, for instance, we have the full form of the glyph Ek, "black," occupying the upper half of the complex glyph, while Figs. 12 and 13 present the losses indicated. The prefix of Fig. 14 has the most reduced variant of a sign a little less diminished in Fig. 15 and complete in Fig. 16. This full form is drawn apart in larger size in Fig. 17. The third case is represented by Figs. 18 to 20. The prefix in Fig. 18 shows only small losses on the side adjoining the main glyph, while in Fig. 19 one side of the topmost element is lost and in Fig. 20 the whole concentric circle is suppressed.

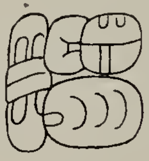

18

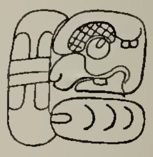

19


20


21


22


23


24

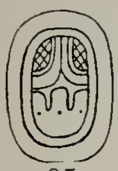
Figs. 18–20—hieroglyphs with the vulture sign: Fig. 18, dresden codex, p. 54a; Fig. 19, dresden codex, p. 17c; Fig. 20, dresden codex, p. 34c
Fig. 21—the day sign imix. codex tro cortesianus, p. 110c
Fig. 22—the details of imix completed
Figs. 23–24—hieroglyphs with curved lines, detail: Fig. 23, palenque, temple of the foliated cross, O7; Fig. 24, palenque, temple of the sun, Q16

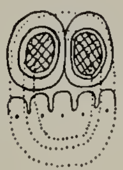
If we also apply this rule of the loss of adjacent parts observed in prefixes, superfixes, postfixes, and subfixes, to infixes that join the frame, we will be able to understand the elements of a good many composed hieroglyphs.

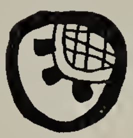
I commence with the day signs as the most common glyphs. The first one, Imix, offers a fine opportunity to employ the rule regarding affixes (now including infixes) which are in contact with the outline of the glyph. The upper part of the sign can be easily and securely completed into a disk with surrounding dotted circle (Fig. 22), that is a variant of the Maya numeral one. The curved lines of the lower part of Fig. 21 might be drawn a little further in the direction suggested by their form (Fig. 22). There really existed, at least in Old Empire times, a glyph that possesses these curved lines in their full size (Figs. 23 and 24).

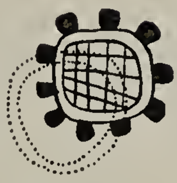
In Ik (Fig. 8), the second day sign, the infix does not touch the frame; so it need not come into consideration.

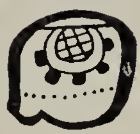
Akbal (Fig. 25), the following day, is to be integrated as shown in Fig. 26. The upper part consists of two beads or disks of greenstone with great central perforations indicated by crossed lines. This hieroglyph has been treated in a special paper.[2]

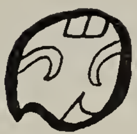

25

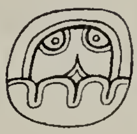

26


27


28


29


30


31

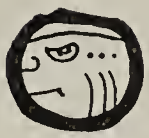

32

FIG. 25—THE DAY SIGN AKBAL, PALENQUE, TEMPLE OF THE SUN, P. 6
FIG. 26—UPPER DETAILS OF AKBAL COMPLETED
FIG. 27—THE DAY SIGN CHICCHAN, CODEX TRO CORTESIANUS, P. 14c
FIG. 28—CHICCHAN COMPLETED
FIG. 29—THE DAY SIGN CHICCHAN, DRESDEN CODEX, P. 61
FIG. 30—THE DAY SIGN CHUEN, DRESDEN CODEX, P. 53a
FIG. 31—HIEROGLYPH AKBAL, PALENQUE, PALACE, HOUSE A
FIG. 32—THE DAY SIGN MEN, CODEX TRO CORTESIANUS, P. 106c

The fourth day sign, Kan, has been mentioned as having its upper element in common with several other hieroglyphs.

The fragment of snakeskin which represents Chicchan (Fig. 27) is restored fully in Fig. 28. The intermediate form of Fig. 29 gives validity to such a proceeding.

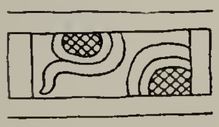
The next five day signs do not offer an opportunity to test our infix thesis.

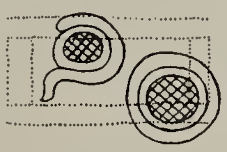
Chuen (Fig. 30, also Fig. 4), the eleventh day glyph, closely resembles Akbal, the very small forms being confused even by specialists. It seems quite possible to me that the principal part of the sign consists of the same two greenstone disks that occur in Akbal, only that in Chuen the dividing line was not traced to the top in order to leave the upper infix isolated. Even in Akbal in special cases the central division is only partly executed (Fig. 31). This detail has received elaboration in the Chuen variant of Fig. 4, possibly with the idea to increase differentiation from Akbal.

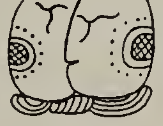
The next sign to be of interest to us is Ix, of which the variant Fig. 5 is to be found only in Landa and the Tro-Cortesianus Codex, furnishing thus another proof for the hypothesis that this manuscript came from Yucatan.

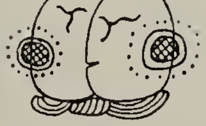
The following day glyph, Men (Fig. 32), contains the same curved lines we had in Imix and must be explained in the same way.

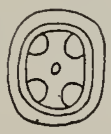
Then Caban requires our attention. Its Old Empire form has a black disk as infix, as can be seen in some almost complete variants. Fig. 33, however, is one in which the infix joins two sides of the frame, losing so much of its bulk

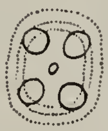

33


34


35


36


37


38

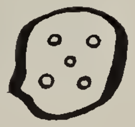

39

FIG. 33—HIEROGLYPH AKBAL, PALENQUE, TEMPLE OF THE SUN
FIG. 34—HIEROGLYPH AKBAL COMPLETED
FIG. 35—HIEROGLYPH BAKTUN, PALENQUE, TEMPLE OF THE CROSS
FIG. 36—HIEROGLYPH BAKTUN COMPLETED
FIG. 37—HIEROGLYPH KAN, ''YELLOW,'' COPAN, STELA A
FIG. 38—HIEROGLYPH KAN, ''YELLOW,'' COMPLETED
FIG. 39—HIEROGLYPH ''GREENSTONE,'' DRESDEN CODEX, P. 42c

---

[2] Beyer, H., El Origen del Jeroglifico Maya *Akbal, Revista Mexicana de Estudios Históricos,* Mexico, vol. II, pp. 5–9.

that hardly more than a quadrant remains. The complete form is indicated by Fig. 34.

In the nineteenth day sign, Cauac, often a mutilated black disk with dots appears. Fig. 35, the hieroglyph for Baktun offers two Cauac signs, both of them having large infixes, which can easily be restored to their full forms as given in Fig. 36.

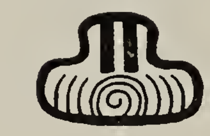
This short analysis of ten of the day signs gives us an insight into the laws of composition of the Maya hieroglyphs. A more detailed discussion and tentative explanation of the meaning of these composed glyphs must be deferred to special papers which will appear later on.

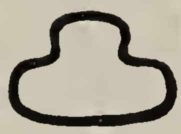
A few more glyphs, which are either common or which offer some special trait, will also be treated here in the same brief manner.

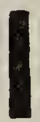
The glyph Kan "yellow," appears in the codices as the color sign ascribed to the south. Besides, it occurs frequently as an inserted element in composed hieroglyphs. It is to be found in the same form also on the monuments (Fig. 37). The four loops lying on the margin can be completed into circlets (Fig. 38). The hieroglyph represents a greenstone disk with the number four inscribed.

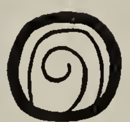
There exists also the variant with four circlets not joining the frame and therefore complete (Fig. 39). This form probably has another meaning, which is simply the greenstone as the brilliant, the shining disk, sending glimmering light to the four directions.

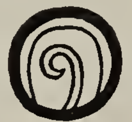
Fig. 40 represents another color glyph, that for "green" or "blue" (Yax). The sign sometimes has the regular calculiform shape of the common Maya hieroglyphs, but more often the form shown in the illustration. The best explanation for this peculiar shape is that given by Spinden, who classifies it as a shell type.[3] We can analyze the hieroglyph as having the outline of a shell ornament (Fig. 41), into which several graphic elements are inscribed. In its upper part we have the numeral sign ten, a fire symbol.[4] The two bars must have lost a certain part of their length, as they are infixes touching the frame, but in this case such an assertion is merely of academic value, as it cannot be proven. In the center of the bottom is an inserted glyph, which, with restored frame, would have the form of Fig. 43, but which actually occurs in the form of Fig. 44, that is,

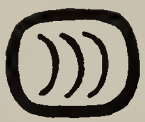

40

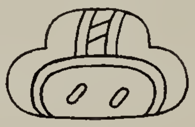

41


42


43


44


45


46

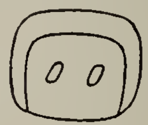

47

Fig. 40—HIEROGLYPH YAX, "GREEN." STANDARDIZED FORM OF THE CODICES
Fig. 41—OUTLINE OF YAX
Fig. 42—UPPER INFIX OF YAX
Fig. 43—INSERTED GLYPH ENLARGED
Fig. 44—HIEROGLYPH "FLAME." STANDARDIZED FORM
Fig. 45—LOWER INFIX OF YAX. STANDARDIZED FORM AS INDEPENDENT GLYPH
Fig. 46—HIEROGLYPH YAX, PALENQUE, PALACE
Fig. 47—INFIX OF YAX. STANDARDIZED FORM AS INDEPENDENT GLYPH

---

[3] Spinden, Herbert J., The Reduction of Maya Dates, *Papers, Peabody Museum of American Archaeology and Ethnology,* vol. 6, no. 4, Cambridge, 1924, p. 19.

[4] Cf. Beyer, H., La Cifra Diez en el Simbolismo Maya, *Revista Mexicana de Estudios Históricos,* vol. 1, pp. 3–7.

the scroll in double outline, probably with the idea of filling the space more adequately. On either side of the scroll glyph in Yax is found a series of the familiar curved lines. Based on the right part of Fig. 40 these lines, conceived as an independent glyph, would take the form given in Fig. 45, that is, merely a variant of Figs. 23 and 24.

The Old Empire form of Yax (Fig. 46) differs considerably from the variants of the codices. Generally none of the later infixes appear, but those used have the same general relation to "fire" and the contours of the glyph are the same. In other glyphs also the upper infix of Yax replaces the two bars.[5] The inscribed hieroglyph as independent sign would assume the form shown in Fig. 47. This, indeed, occurs once as variant of the day sign Chicchan.[6] The curved lines are never present in the early variant of Yax, but the inserted glyph is broader and fills the space adequately.

Fig. 48 reproduces the main part of a compound hieroglyph. More or less in the center we note the number one, almost entire, just touching an inserted glyph which here is Kin, "sun," but which interchanges with Kan "yellow." In Fig. 49 the infix is shifted to the upper margin of the frame and here we have an occurrence analogous to Fig. 33, where the infixed element loses substance on two sides. The full form of Fig. 49 would be more or less as indicated in Fig. 50. In this variant the black disk is much larger than in Fig. 48, evidently for the reason that a mutilated small disk would be almost imperceptible.

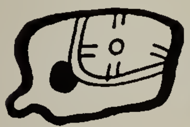
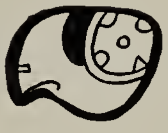
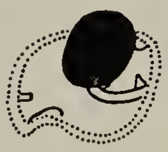
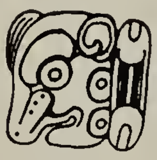
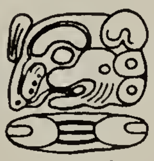
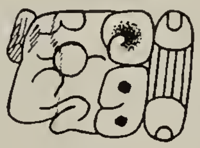
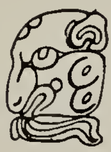

48

49

50

51

52

53

54

Fig. 48—hieroglyph "one kin," Dresden Codex, p. 68c
Fig. 49—hieroglyph "one kan," Dresden Codex, p. 4c
Fig. 50—completed form of Fig. 49
Figs. 51–53—hieroglyph "dog bone": Figs. 51–52, Palenque, Temple of the Foliated Cross; Fig. 53, Palenque, House C
Fig. 54—hieroglyph of the uinal Xul, Palenque, Temple of the Cross

Hieroglyph C2 of the Temple of the Foliated Cross of Palenque (Fig. 51) represents a dog's head with an affix and after six intermediate glyphs this same

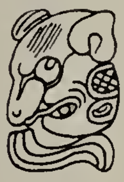
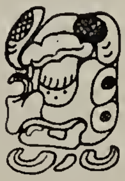
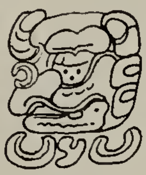
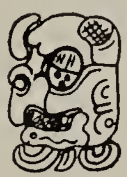
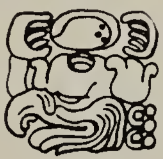
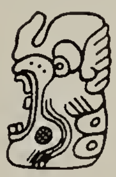
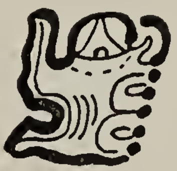

55

56

57

58

59

60

61

Fig. 55—hieroglyph of uinal Xul, Palenque, Temple of the Sun
Figs. 56–58—hieroglyph tun: Fig. 56, Palenque, Temple of the Foliated Cross; Fig. 57, Palenque, Temple of the Foliated Cross; Fig. 58, Palenque, Temple of the Foliated Cross
Fig. 59—hieroglyph katun, Copan, Stela A
Figs. 60–61—hieroglyphs of uinal Zotz: Fig. 60, Palenque, Temple of the Sun; Fig. 61, Dresden Codex, p. 46

---

[5] *l.c.*, p. 7.

[6] Morley, Sylvanus Griswold, The Inscriptions at Copan, *Publication 219, Carnegie Institution of Washington*, Washington, 1920, p. 188.

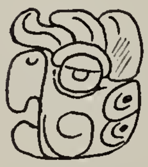
compound sign appears again (Fig. 52), only that here the affix is put below and not behind the animal's head. This slight difference, which evidently has no bearing on the significance of the sign, is, however, very important for the form of the infix we note in both heads shown to the right. In the first specimen the head is elongated and therefore much space in a vertical sense is available, while in the second case the space is broader but lower. Thus in Fig. 51 the two perforated disks which form the infix, are separated, while in Fig. 52 they lie close together. In the rest of the free space of the figure two other infixes, a circlet and three curved lines, are placed. The disks of the infix in question are in both cases almost entire. It is the same element we already have had in larger size with the day sign Akbal, that is, the double greenstone ornament.

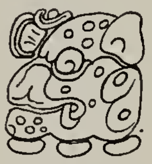
This infix is quite common in animal's heads and occurs in several variants in Fig. 53 to 63. Figs. 53 to 55 are again heads of dogs, Figs. 56 to 59 those of a horned owl, Figs. 60 to 61 of a bat, Fig. 62 is the head of a bird and finally, Fig. 63 is the head of a jaguar.

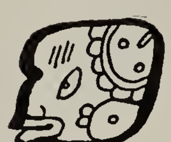
Figs. 64 and 65 permit us to observe another quality of the infixes, namely, their perpendicular position in relation to the frame. In this particular case the infix is put into the corner of two frame lines and the direction of the conventional face is diagonal. The full form of the infix may be seen in Figs. 66 and 67. Generally the infixes are much too small and symmetrical to permit us to say whether they are slanted in one direction or another and it is only with more complicated forms that we can establish this new rule of Maya writing. It is, however, only an analogy to the employment of outer affixes.

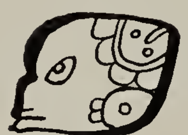
The data and their interpretations discussed in the foregoing lines allow us now to make a few general statements on infixes.

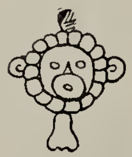
(1) All details that touch the frame of the glyph and that are not easily recognized as forming an essential and indispensable part of a larger figure are likely to be infixes.


62


63


64


65


66

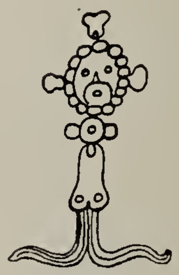

67

Fig. 62—hieroglyph of bird, Palenque, Temple of the Cross
Fig. 63—hieroglyph of jaguar, Palenque, Temple of the Inscriptions
Fig. 64—hieroglyph of god, Dresden Codex, p. 6a
Fig. 65—hieroglyph of god, Dresden Codex, p. 4a
Fig. 66—greenstone adornment, Palenque, Temple of the Cross
Fig. 67—greenstone adornment, Palenque, Temple of the Cross

(2) All infixes lying on the frame lose a small fraction of their volume on the side adjoining the frame.

(3) Very simple and small elements that are used as infixes, are relatively increased in size when they touch the frame. This is done in order to compensate for the part lost by coming in contact with the frame. (Compare Fig. 39 with Fig. 37 and Fig. 48 with Fig. 49.)

(4) As to position, the infixes follow the same rule as the outer affixes, that is, any of the four sides of the calculiform frame serves as base for the element.

Tulane University of Louisiana.

Discussion

By K. Th. Preuss

Die systematische Art, in der der Vortragende die Zwischenelemente (Infixe) einer grossen Reihe von Maya-Hieroglyphen herauspräpariert und zu ganzen Gebilden vervollständigt hat, lässt auf die Einbürgerung einer neuen Methode hoffen, die nicht nur die Daten, sondern alle Hieroglyphen nach und nach in betracht zieht. Wer die geduldige Art verfolgt, die Herr Beyer bei der Entzifferung der mexikanischen Darstellungen z.B. in seiner Arbeit *El Llamado Calendario Azteca* angewandt hat, wird seine Versuche auch in der Maya-Forschung mit grossen Hoffnungen begleiten.

THE SYMBOLIC PLAN OF PALENQUE

By Stansbury Hagar

SOME names of the Maya temples of Yucatan as we have received them are of native origin, some have been given by modern travelers because of distinguishing characteristics. All are appropriate and the native names probably represent a real knowledge of the purposes and attributes of the buildings which has reached us from the time when they were in use. The occurrence of like or identical names in the temples of different Maya cities establishes the repetition of certain types and indicates that the temples were not single haphazard constructions, but that groups of temples were dedicated in accord with some general scheme.

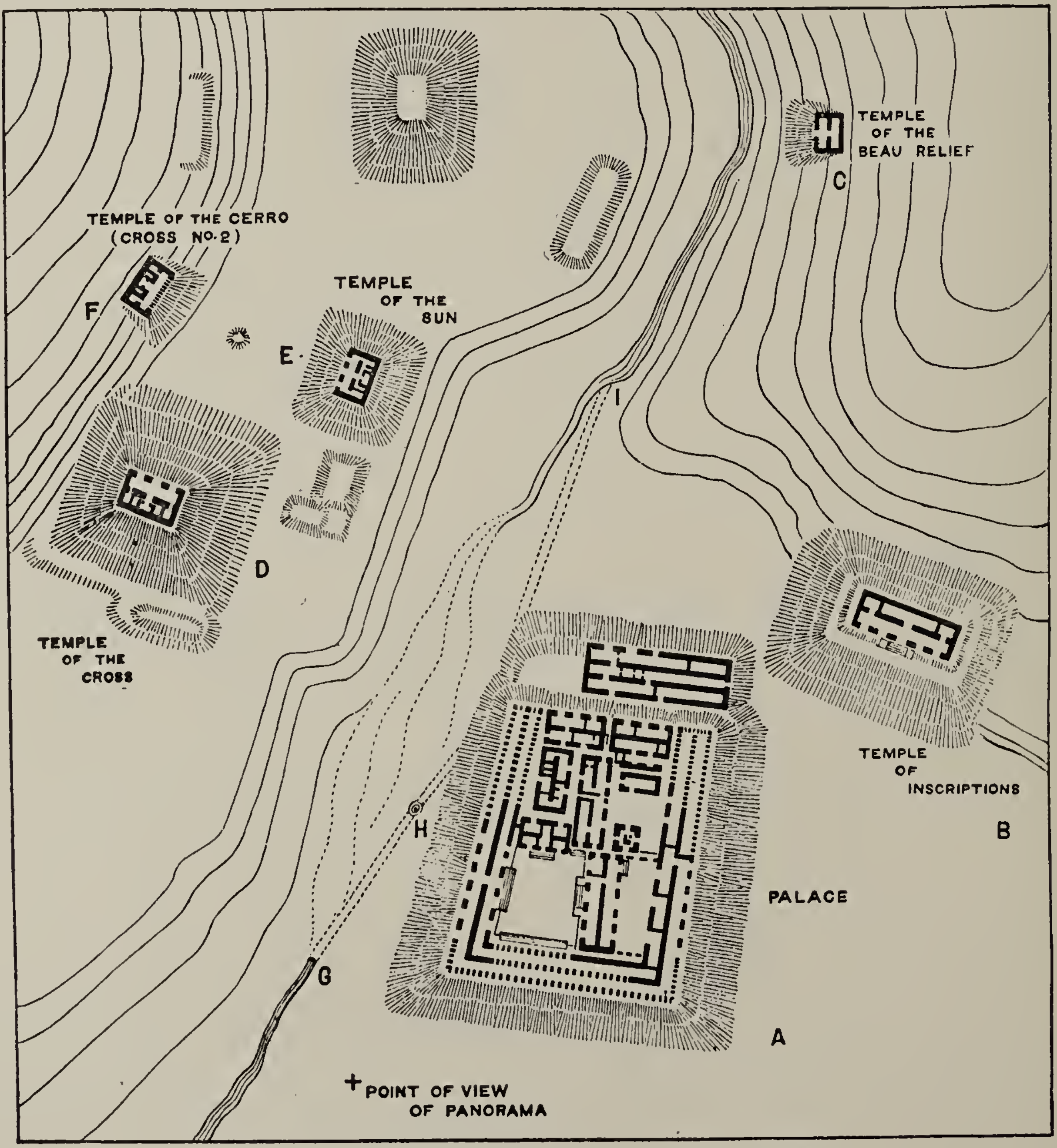

TEMPLE OF THE CERRO
(CROSS No. 2)
F
TEMPLE OF THE SUN
E
TEMPLE OF THE BEAU RELIEF
C
I
D
TEMPLE OF THE CROSS
TEMPLE OF INSCRIPTIONS
B
H
PALACE
G
A
+ POINT OF VIEW OF PANORAMA

Fig. 1—Sketch map of Palenque. After Holmes

Maudslay thought that the groundplans of Copan and Quirigua are almost identical, revealing a distinct scheme of orientation in both places in which importance was attached to the relative positions of the temples, courts and buildings.[1] Did such a plan exist among the Maya cities? So far as the writer is aware he alone has attempted to answer this question in a former paper on the *Celestial Plan of Uxmal* in which he offers details and an explanation of such a plan.[2] True, no Maya temple exactly reproduces another, all differ in details, for the Maya architects, like the true artists they were, abhorred mechanical repetition and sought originality in every temple. But the basic significance of the symbolism was the same in like groups though the manner of its presentation varied.

The purpose of this paper is to present evidence of the existence at Palenque of a plan similar to but not identical with that at Uxmal. This evidence will depend almost wholly on the symbolism of the temples. A number of symbols are repeated on many temples but each edifice is distinguished by one or more predominant symbols peculiar to it. These latter symbols are associated in continuous sequence with the sequence of the uinals or twenty-day periods of the Maya calendar and with the rituals associated with them. If this statement can be established, we may then seek to explain this relationship.

According to Brasseur de Bourbourg the ruins which bear the modern name, Palenque, were originally known as Nachan, or House of the Serpent. They begin toward the south with a rather large mound on the platform of which no traces of a building or of symbols remains today (Fig. 1). Its neighbor on the northeast is the temple of the Foliated Cross called Temple of the Cerro on our Plan. A stucco tablet within the inner chamber or sanctuary explains the name. The symbols on this tablet and that of the similar and neighboring Temple of the Cross have been more extensively studied than those of any other Palenque temples and all writers seem to be in substantial agreement concerning their significance. A priest and a priestess, or smaller priest, face each other on opposite sides of a cross-like figure, the three upper extremities of which assume the form of sprouting arms of a plant or tree, while its base is surrounded by similar symbols (Pl. I). These are also repeated around the glyph on which the priest and priestess are standing. The so-called cross is in fact a conventional maize plant.[3] Its face is that of the maize deity, its arms are the unfolding leaves, upon which two upturned human faces occupy the position of the maize ears. Their falling hair simulates the tassels of the ripe maize and the leaves are decorated with groups of seeds and maize grains. They represent the young and growing maize.[4] The plant stands on a grotesque face, which probably represents the Rain God, standing on a head marked by the *cauac* sign of rain. On its forehead is the symbol of the star in the east, the morning star; thus indicating an association with the east, the sun, and the stellar heavens. Above it is the sacred *quetzal* bird, here, by general agreement, symbol of the God of Rain, whose features it has. To it the priest offers some form of growing vegetation, doubtless with a prayer for the rains necessary for the fertile growth of the maize crop. And the prayer may be supported by the upturned faces of the growing plant. Indeed these faces may also represent victims sacrificed to bring the rains. The maize plant which dies and rises anew symbolizes the warrior who is sacrificed fighting in the Mexican Festival to Xipe in March, which has its Maya counterpart.[5] The hymn to Xipe contains the lines:—

---

[1] Nuttall, 1901, p. 230.

[2] Hagar, 1921.

[3] Joyce, 1914, p. 234; Nuttall, 1901, pp. 237, 239.

[4] Seler, 1901–1902, pp. 19, 70.

> Let me go to die, me the maize plant.
> A green jewel is my heart,
> Gold have I still to see there.
> (That is, the golden yellow of the ripe maize)
> I shall be satisfied.[6]

Birds stand on similar cruciform maize trees in the Mexican codices. For the Mexicans the sprouting maize plant was the symbol of the awakening of vegeta-

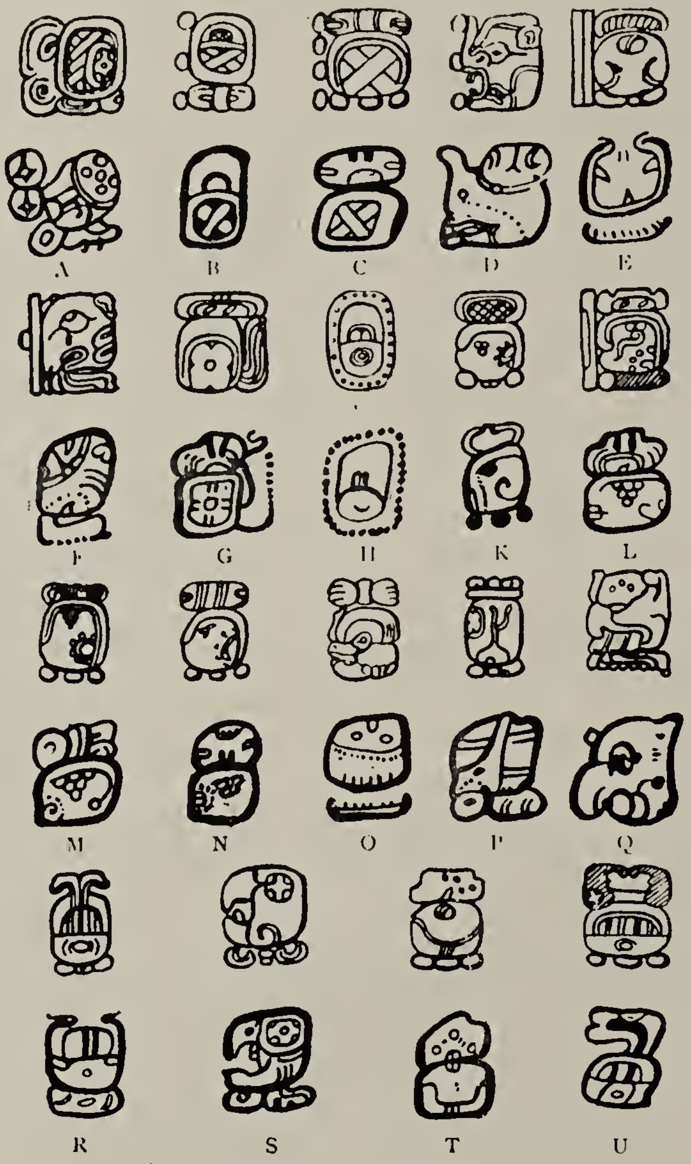


Fig. 2—Maya month-signs; upper rows from the monuments; lower rows from the MSS.

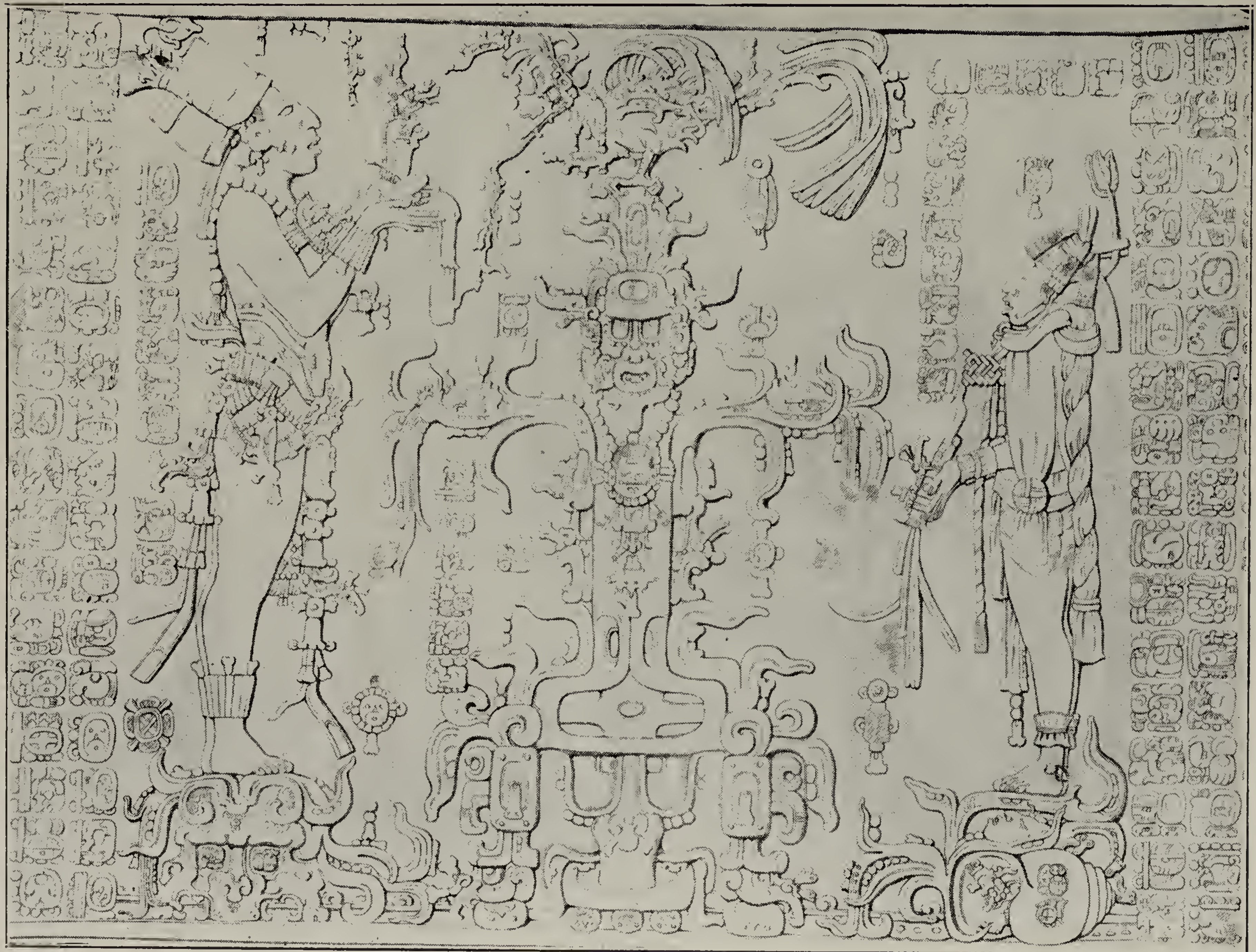
A.	pop.	F.	xul.	M.	zac.	R.	pax.
B.	uo.	G.	yaxkin.	N.	ceh.	S.	kayab.
C.	zip.	H.	mol.	O.	mac.	T.	cumhu.
D	zotz.	K.	chen.	P.	kankin	U.	uayeb.
E.	tzec.	L.	yax.	Q.	muan.		

AFTER JOYCE

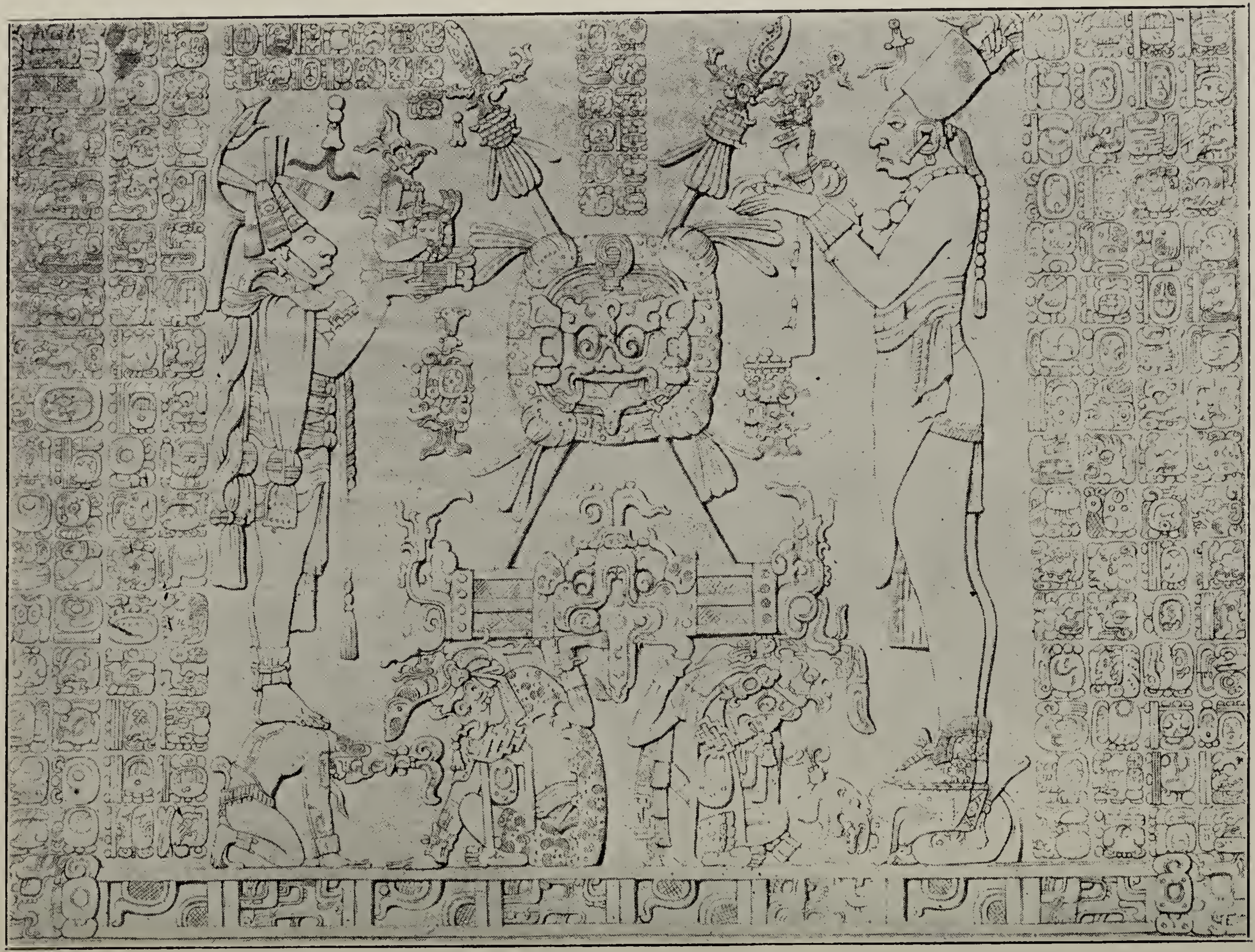
---

[5] Landa, 1928, p. 202.

[6] Seler, 1902–1903, p. 268.



STUCCO TABLET IN THE TEMPLE OF THE FOLIATED CROSS, PALENQUE, SHOWING THE RAIN BIRD AND MAIZE PLANT. AFTER MAUDSLAY.



TABLET OF THE TURTLE SUN IN THE TEMPLE OF THE SUN, PALENQUE. AFTER MAUDSLAY tion to new life in the spring, season of the eastern dawn of the year, so the Foliated Cross was assigned to the east and it was in reality the Temple of the Rains and Crops.[7]

Let us compare this tableau with the symbols of the Maya *uinal,* or twenty-day period *Kankin,* Yellow Sun or Maize Sun, which, according to Landa, includes the period April second to twenty-second of our calendar (Fig. 2). The famine and drought of the dry season was then coming to an end with the approach of the first rains. In this and the preceeding *uinal* the maize was sown and the hearts of birds and animals were offered to the gods of vegetation with prayers for sufficient rain to ensure plentiful crops during the ensuing year.[8] The principal element of the glyph of this period seems to be the conventional maize plant with its roots in the ground, thus corresponding both with the name of the *uinal* and with the basic symbolism of the Foliated Cross.[9] The bird of the rains above the Foliated Cross likewise corresponds with the name and glyph of the following *uinal* Moan, bird of the clouds and rains, the name itself meaning cloudy. Its head forms the glyph of the *uinal,* which includes the thirteen mystical layers of clouds, and rain issues from his mouth.[10]

Duran presents a maize plant as the symbol of the corresponding Mexican twenty-day period.

North of the Temple of the Foliated Cross is the famous Temple of the Cross. The tablet within its sanctuary is very similar to the one we have just studied, but differs in some important details. There is the same cruciform figure between the priest and priestess with bird above and grotesque head below, but the form of the cross is more regular and conventional. It is not personified nor obviously associated with the maize. The glyph of the Sun God appears on the uneven central branch of the Cross,[11] establishing some connection with the solar course; and the lower part of a spear or arrow appears on its vertical arm in the center of the tableau. This object forms its most conspicuous distinguishing feature. The horizontal arms terminate in the conventional heads of two serpents, the Mexican Xiuhcoatl fire serpent, or, more significantly, serpent of the year, for this serpent is a form of Xiuhtecutli, Lord of the Year.[12]

The spear or arrow suggests war and warriors, which are prominent in the ritual of the *uinal* Pax, or Drum, following Moan. According to Brasseur de Bourbourg the name is derived from *paax,* to break or bruise (hence, to drum; also symbolically to fight?).

All then gathered at the house of the Nacon, or general, of their armies; one of two officials who bore this title and who was elected every third year, apparently during this festival. There they performed an elaborate war dance and other rites concerned with the affairs of war, and with the hope of obtaining victory. Clearly then, this was the *uinal* of war and warriors and the temple was that of the Two Generals.

---

[7] See Codex Vaticanus 3738, p. 20.

[8] See also Bowditch, 1910, Pl. VIII, X.

[9] Landa, 1864, pp. 130–154. The Maya calendar described by Landa varied extensively from the seasons but from time to time it was corrected into accord with them doubtless by observations of the length of the tropical year. But the ritual and symbolism of the dates assigned by Landa to the various *uinals* correspond closely with the actual seasons. That correspondence, therefore, seems to have been established in the original calendar whatever its date, and the calendar had probably been corrected near the time when Landa wrote.

[10] Brinton, 1894, p. 74; Perez, 1864; Seler, 1904, pp. 43, 44.

[11] Seler, 1901–1902, p. 19.

[12] Seler, 1904, p. 18. *Anales de la Museo Nacional de Mexico,* tomo III, p. 5.

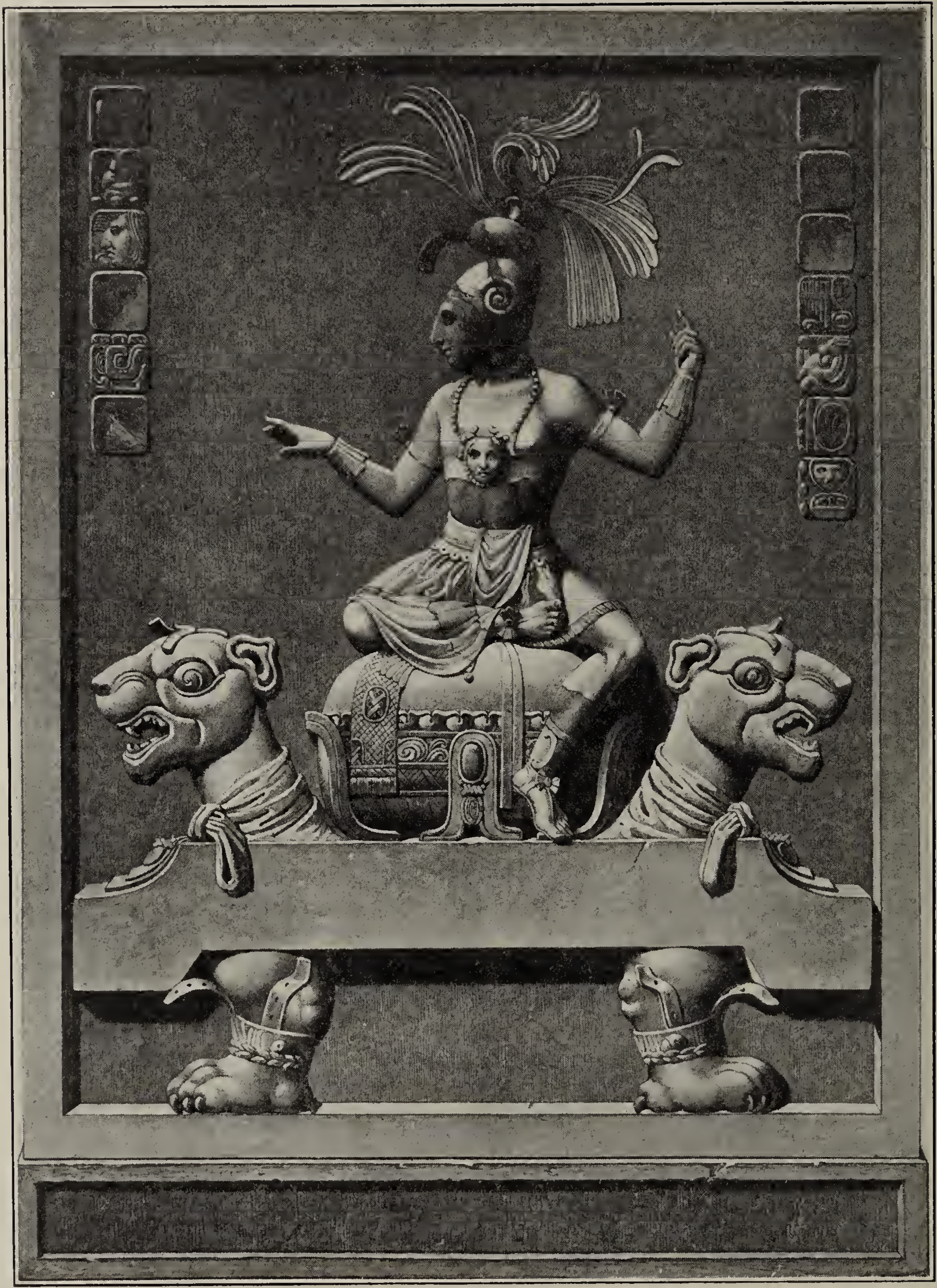
Duran represents the corresponding Mexican twenty-day period as a warrior, weapon in hand, walking before a temple and carrying a shield marked with the sun symbol. The drum was used in the ritual and ceremonial dances but also, doubtless, like the Mexican drum, to call together the soldiers in time of war.[13] The glyph itself depicts the drum. From it issues a symmetrically divided plant-like figure which may represent the sound of the drum as the similar single curved volute represents the sound of speech, or it may represent the cruciform tree which its form also suggests. This glyph is conspicuously figured at the top of the two outer slabs of the face that support the front façade of the temple. Its position and its unusually large size seem to indicate that it was regarded as a very important symbol, and one associated with this structure.

The Mexican hymn to the god Xipe includes a symbolic reference to the progress of the season when the maize ripens after it is sown, during the festival to the god in March. In the first part of the second strophe given above, which corresponds roughly with April, the maize is not yet ripe, but the strophe concludes with the phrase: ''When one (maize graïn) has first become hard (ripe) the war captain born is''; that is, the war captain was formally chosen or elected during the festival in his honor held when the first maize grains ripened. Among the Maya this was during the *uinal* Pax, or in our month of May. At this time the rains began and the second strophe continues: ''O God, thy jewel water has descended. O quetzal feathers, the old tree. O quetzal feathers (the dragon).'' The commentator explains this: ''Thou, my God, descended has thy water, come is thy water; already has it changed itself to (green) quetzal feathers, already has it become green, already has it become summer, already has the famine (of the season of drought) left us.'' And we may add the query whether the old tree which becomes green at this season is not symbolized by the conventional tree, the Cross of Palenque, itself used as a symbol of the season of returning vegetation, just as we use Christmas trees for the same purpose.

We now turn back southward in our course and encounter the Temple of the Sun, so called because of the conspicuous figure of the sun at the center of the principal tablet in the Sanctuary (Pl. II). The solar disk is figured as a human face with protruding tongue to which, from opposite sides, the typical priest and priestess present offerings. Each holds a small grotesque human figure with a long nose, similar to the figure held by the seated personage on the Great Turtle at Quirigua. Their headdresses are covered with the leaves, plants, and pendent flowers of the season of abundance following the beginning of the rains and a tortoise appears among their ornaments. But the most important element of this solar disk is its serrated edge. A number of analogies point to the conclusion that this serration imitates the edge of a turtle carapace so that the solar disk itself represents a turtle, the turtle-sun in fact. Doctor Förstemann has shown that the turtle is the Maya symbol of the summer solstice, cor-

---

[13] Joyce, 1914, p. 167, note figures of warriors on the drum; Prescott, 1899, Book 5, chapter 3; Landa, 1928, pp. 194, 206.



YOUNG SUN GOD ON THE JAGUAR THRONE, TEMPLE OF THE LIONS, PALENQUE. AFTER DE WALDECK responding with the *uinal* Kayab, following Pax, which is symbolized by the head of a turtle.[14] The name Kayab is probably connected with that animal.

The sun is supported on two diagonally crossed spears or arrowheads that symbolize the ceremonial firesticks with which the new fire was lighted at the time of the summer solstice. This structure, then, was the Temple of the Sun of the Solsticial Turtle, similar in significance to the House of Turtles at Uxmal. The cornice of its roof and the lower part of its roof comb were covered with a luxuriant mass of sculptured leaves, fruit, and flowers marking the height of the rainy season.[15]

The Tonatiuh Ichan, or House of the Sun, is shown on sheet 19 of the Mexican Codex Fejervary-Mayer. The budding tree of full vegetation stands beside it and the Sun God before it. The sun is placed at its base and at the top of the solsticial stairway by which it has climbed to the summit of its annual journey.

No temple seems to correspond with the glyph of the following *uinal* Cumhu, Sacred Vase (of the Rains), one element of which is a mass of clouds. Nor does the glyph of Uayeb, the unlucky intercalary period next in order, appear; perhaps because of its portentous character.

Passing on southward from the Temple of the Turtle-Sun we come to the Temple of the Lions[16] with its graceful and beautiful tablet, perhaps the artistic masterpiece of Palenque, on which a youthful deity sits upon a cushion decorated with a band on which we see the interwoven strands of Pop, the Mat, name of the following *uinal.* (Pl. III.) The cushion in turn rests upon a kind of throne supported on the backs of two conventional jaguars facing outward; hence, the name of the temple. The arms of the deity are gracefully raised with the fingers of the left hand pointing upward, those of the right hand extended horizontally as if to signify that the wisdom he obtains from above he distributes over the earth. The Mat is used only by rulers, consequently it is the symbol of strength and regal power; and the supporting jaguars, the fiercest and most powerful beasts known to the Maya, amplify the same concept. In the Pop glyphs, on the inscriptions, the solar symbol is enclosed within a circular solar disk beside the Mat symbol. In those in the codices the glyphs themselves seem to form a cushion replacing the Mat symbol. They are supported upon the paw of an animal; so we see that in the glyph of the *uinal* the solar symbol occupies the position of the deity of the temple tablet, the Mat that of the cushion, and the animal paw that of the two jaguar paws. The deity is the youthful, vigorous sun-god of midsummer marking the date when the Maya began their ritual year with the southward passage of the sun across the meridian of Yucatan on its return from the summer solstice. The throne, mat, and jaguars emphasize his strength and power. Juan de Cordova, Zapotec grammarian, calls the two hours before noon "when the sun is near its throne."[17] A similar symbolism seems to have been applied to the summer solstice as the annual noon of the year. There are similar figures at Mitla, Santa Rita, Acanceh, and Chichen Itza.

From the Temple of the Jaguars we turn back towards the northwest and reach the Temple of the Inscriptions, distinguished by panels on which standing figures, usually women, hold infants in their arms. Probably parents present their children before the altar with prayers for their growth and well-being, as in the Mexican Ixcalli festival at the opposite time of year. The women's skirts are decorated with the lattice design, the distinguishing mark of their sex. Not improbably it is also ceremonial and pertains to the female deities, priestesses, or women of high rank. Of the five most prominent figures three are women and the fourth, a man, probably representing the Maize God, and presiding over the *uinal* of the maize harvest. The Indians called this temple the School,[18] probably correctly, but it was primarily dedicated to woman and her functions, especially motherhood, and it was probably placed under the patronage of the Goddess Ixchel, creatress of children and Zuhuy Kak, Virgin Fire.[19] Doubtless it was the home of the consecrated priestesses like the House of Nuns at Uxmal and Chichen Itza.

---

[14] 1904, pp. 423 *et seq.*

[15] See Caddy, 1840.

[16] Called Temple of the Beau Relief on our plan.

[17] Seler, 1900–1901, p. 31.

The glyphs of the *uinal* Uo and Zip correspond with this temple. Alone among the *uinal* glyphs they include a diagonal cross, which probably refers to the female lattice design. Uo is translated prickly pear, also frog, both having female associations. Zip is a tree, also figured in the glyph. According to Brinton, it is probably associated with the setting sun; that is, with the region of the west pertaining to woman.[20] During this *uinal* rites were held in honor of Ixchel, goddess of medicine and childbirth, and prayers were offered to her, evidently for the gift of children, safe delivery, and other matters pertaining to the functions of the female sex, the only rites of the *uinal* festivals in which women participated. Women and men drank together, with phallic rites.[21] This, we may conclude, was the Woman's Temple.

Continuing northward we reach the Palace, much the largest building at Palenque. Some writers have seen in this structure the headquarters of civil authority, as its name implies, but the preponderance of opinion has rightly judged that it was devoted to religious uses like its neighbors. It comprises a number of wings grouped around a central courtyard and containing numerous stucco figures and designs of diversified character, some of which, like the young sun-god on the jaguar throne, reproduce distinguishing features of other temples. But its own distinguishing symbols seem to be presented on the exterior slabs beside the main entrance to the structure. On them groups of suppliants in attitudes and with gestures of respect and reverence offer petitions or prayers to standing men above them who are evidently priests, and receive from them the announcement of prognostics written in their sacred books. We may reasonably conclude that this temple was the Temple of the Priests, similar in purpose and uses to the House of Priests at Uxmal, Izamal, and in other Maya and Mexican ruins. As the priests served all the temples it was appropriate that all their symbols should be reproduced on this building. The disproportionately large size of this temple at Palenque indicates the supreme power of the priests there. Palenque was indeed preëminently the City of Priests.

---

[18] Stephens, 1841, p. 340.

[19] Landa, 1928, p. 227; Brinton, 1894, p. 42.

[20] Brinton, 1894, p. 117.

[21] See Landa, 1928, p. 224.

The *uinal* Zotz, or Bat, following Zip, corresponds with this temple and is depicted as a bat head to which a sun symbol is sometimes attached; sometimes the symbol of Tzec, the following *uinal.* At this season the rains lessen and cease and vegetation begins to die. The sun of autumn is descending from the annual noon of its course into the darkness and death of the west, into the dusk, when the bats appear from their caves and fly about. The priests also may have been associated symbolically with the bat of darkness, for some of them at least were believed to hold communion with the spirits of darkness and death, as we shall see.

At an undefined date in the *uinal* Zip, [Zotz?], Landa states that the Maya invoked Cinchahau (Kinich Ahau) Itzamna, ''who, they say, was their first priest.'' To him they offered presents, balls of incense and the sacred fire. Having brought out one of their books they moistened its cover with sacred water and then the most learned priest among them opened it, examined the prognostics it contained for the forthcoming year, and announced them to the waiting people. The tablets of the priests and suppliants very likely depict this rite. If so this curiously justifies the title House of Laws, which has also been assigned to the Palace. The woman's ritual of Zip as described by Landa, which harmonizes with the symbolism of the Woman's Temple and the *uinals* Uo and Zip as described above, precedes his description of the priestly ritual, while in Zotz no ritual is mentioned. This increases the probability that the priestly ritual should have been assigned to Zotz.

We must now retrace our steps southward again and at a point west of the Woman's Temple we encounter the ruins of an unnamed temple on the façade of which Mr. Frans Blom refers to a huge death-head as the only remaining symbol. A scorpion head and claws seem to be sculptured below each ear.[22] These two symbols suffice to identify this edifice as the typical Temple of Death, associated with death and its allied concepts. A human skull of stone that fitted within a hollow in the seat of a stone chair was found by Maudslay on the top of a small mound 50 feet southwest of the Foliated Cross. The glyph of the *uinal* Xul, following Zotz and Tzec, is seen at the top of three glyphs on the right side of the chair.[23] Although this skull and chair were found so far away from the temple of the death head they probably pertained to it originally, and represented Death enthroned. On sheet 32, of the Mexican Codex Fejervary-Mayer, a skull with open mouth, is similarly placed on a throne within a temple lined above and below with human skulls, its rear wall composed of bones. On sheet 34, the Death God stands before a similar chair and skull with protruding tongue, symbol of speech. Analogies show that these figures all refer to the *chilan,* or mystic oracular priest of the Death God, who was thought to declare to the people knowledge obtained from communication with spirits of the living dead.[24]

According to Doctor Brinton the name Tzec signifies scorpion, and the glyph may depict its claws conventionally. According to Brasseur de Bourbourg and Perez, *tzeec* signifies to prophesy, discuss, chastise; *tzec,* death head, skull, bones of the dead. Brasseur translates it as death-head (*Tzek el*), others as discourse.

---

[22] Blom and La Farge, 1926, p. 178 and Fig. 138.

[23] Maudslay, 1890, p. 32 and Plate 90.

[24] See Landa, 1928, pp. 97, 193.

All the meanings are consistent, for the scorpion and death-head relate to death and discourse to the oracular pronouncements of the *chilan,* priest of the living dead, ‘‘prophet and interpreter, learned in his language, he who understands himself.’’

Xul, the next *uinal,* signifies end; that is, death as the end of life. It is most often depicted as a human skull from which the breath of life is escaping. During Xul the festival Chic Kaban was held in honor of the deity Kukulcan, Bird Serpent, who, after his departure from Yucatan, mounted to heaven with the other deities. This festival was celebrated throughout the country in his temples where prayers were offered to him. He descended from heaven on the last day of the festival and personally received the sacrifices. It is probable that the departure of Kukulcan referred to his death and that his return to earth referred to the return of the spirits of the dead at this time, a belief held in many other parts of America and the eastern continents. This is our three day’s festival of the dead marked by All Saints, All Souls, and Hallowe’en.

Beyond it Maudslay’s plan presents the remains of a circular structure of which no description is given.

There were also circular temples at Chichen Itza, Mayapan, Kanpech, the Island of Sacrificios, possibly at Champoton and Cozumel, and probably at Uxmal, for Holmes Panoramic View seems to indicate a circular mound there.[25] Unfortunately, all these edifices, save that at Chichen Itza, have either disappeared or have reached us too completely ruined to disclose any symbols that would enable us to determine whether they all represent a single type. However, tradition called the Chichen Itza structure the Caracol, Snail, a name rendered appropriate not only by its circular shape but also by its spiral interior stairway. That this was not an accidental resemblance is confirmed by Grijalva’s chaplain, who describes the temple on the Island of Sacrificios as ‘‘a tower in the form of a snail,’’[26] but there is no adequate reason why a temple should be called a snail merely because it is circular. It must have been constructed in form to conform to the shape of the snail shell. Not more than one of these circular temples has been found or reported in any one place. In view of these facts and the repetition of types among the Maya temples, as previously indicated, it seems probable that all the circular temples were of one type and were associated with the snail. That object, as Doctor Förstemann has shown, was the Maya symbol of the winter solstice, appearing in the glyph of the corresponding *uinal,* Mol, Claw or Paw, following Yaxkin. He also interprets this name as referring to the sun after setting, but more likely it pertained to the underworld sun, or the sun at the lowest point of his course in the south.

The Moan bird of the rains and crops above the foliated cross symbolizes the Pleiades of Taurus.[27] The three circular figures of the Pax glyph refer to the three stars of the Belt of Orion, south of Gemini.[28] The turtle is a prominent Maya constellation associated with the summer solstice when the sun is in Cancer. The jaguar is also a prominent Maya constellation which occupies the position of

---

[25] See Hagar, 1921.

[26] Juan Diaz in Landa, 1928, pp. 42, 66.

[27] Förstemann and Brinton; Brinton, 1894, p. 74.

[28] Förstemann, 1904, p. 503.

Leo in a number of Maya and Mexican zodiacal sequences, as the writer has shown in previous papers. On the Maya zodiac at Santa Rita, the position of Virgo is occupied by a deity holding up a child, as on the Temple of Inscriptions.[29] The scorpion of the Death temple and the *uinal* Tzec corresponds with the Maya Zinaan ek or Scorpion asterism, the Mexican Colotl Ixayac or Scorpion Face which is identified with our Scorpio by Sahagun and several later writers, but the alignment of its stars alone should suffice to identify it.[30]

In various Maya zodiacal sequences it appears as the Chilan or mystic priest of the Death God; among Duran's asterisms as a mummy. With this zodiacal sequence in view, may we not conclude that our Palenque temples, like those of Uxmal, were dedicated to the sun and the signs of the Maya zodiac and each temple to the *uinals* which marked the time when the sun was passing through its sign, the eighteen *uinals* being distributed among the twelve or possibly thirteen signs? Also that the relative positions of the temples, in sequence, formed a serpentine figure which itself symbolized the zodiac: Evidence of this must be postponed but it is not impossible that this explains the name Nachan, House of the Snake. Doubtless, as at Uxmal, prayers were offered in each temple appropriate to the season, or the attributes of the sign with which that temple was associated: for good crops under Taurus, for success in war under Gemini, for power and strength under Leo, etc. The Maya, like many other people throughout the world, perceived the natural comparison of the annual journey of the sun through the zodiac with the journey of the human soul through life, and this added to the importance of the zodiac as a measure of time. The sacred city with its zodiacal temples was believed to reflect on earth the sacred design of the celestial world and to share in its perfection. These concepts adequately explain the labor and the art devoted to the representation of this ideal.

REFERENCES

Anales del Museo Nacional de Mexico, tomo III.

BLOM, FRANS AND LA FARGE, OLIVER. *Tribes and Temples.* Tulane University, New Orleans, 1927.

BOWDITCH, C. P. *Maya Numeration, Calendar and Astronomy,* Cambridge, 1910.

BRASSEUR DE BOURBOURG, E. C. *Dictionnaire de la Langue Maya,* Paris, 1872.

BRINTON, DANIEL G. *Primer of Mayan Hieroglyphics,* Philadelphia, 1894.

CADDY, J. A. *Palenque Ms.,* Saville Coll., 1840.

Codex Vaticanus 3738, Roma, 1900.

COGOLLUDO, DIEGO LOPEZ, *Historia de Yucathan,* Madrid, 1688.

DURAN, DIEGO, *Historia de las Indias de Nueva España,* Mexico, 1867–1880.

FÖRSTEMANN, E. W. *Bulletin 28, Bureau of American Ethnology,* Washington, 1904.

HAGAR, STANSBURY. Elements of the Maya and Mexican Zodiacs, *Proceedings, XVI International Congress of Americanists,* Vienna, 1910.

The Maya Zodiac at Santa Rita, *Proceedings, XIX International Congress of Americanists,* Washington, 1917, pp. 211–219.

The Zodiacal Temples of Uxmal, *Popular Astronomy,* vol. XIX, 1921, pp. 94–102.

HOLMES, WILLIAM H., Archaeological Studies among the Ancient Cities of Mexico, part II, *Field Columbian Museum, Anthropological Series,* vol. I, no. 1, Chicago, 1895–1897.

JOYCE, THOMAS A. *Mexican Archaeology,* New York, 1914.

LANDA, DIEGO DE. *Relacion de las Cosas de Yucatan,* (a) Brasseur de Bourbourg ed. Paris, 1864, (b) Genet ed., Parte 1, Paris, 1928.

---

[29] Hagar, 1917, plate II, no. 7.

[30] Hagar, 1910, 1917.

Maudslay, Alfred P. *Archaeology,* text and vol. IV, plates, in *Biologia Centrali Americana,* London, 1890.

Nuttall, Zelia. *Fundamental Principles of New and Old World Civilization,* Cambridge, 1901.

Perez, Juan Pio. (a) *Diccionario de la Lengua Maya,* Merida, 1866.
(b) In Landa, Brasseur de Bourbourg ed.

Prescott, William H. *A History of the Conquest of Mexico,* Philadelphia, 1899.

Seler, Eduard. (a) *Bulletin 28, Bureau of American Ethnology,* Washington, 1904.
(b) *Codex Fejervary-Mayer,* Berlin, 1901–1902.
(c) *Codex Vaticanus 3773,* Berlin and London, 1902–1903.
(d) *Codex Tonalamatl Aubin,* Berlin and London, 1900–1901.

Stephens, John L. *Incidents of Travel in Central America, Chiapas and Yucatan,* vol. II, New York, 1841.

Brooklyn Institute of Arts and Sciences,
Brooklyn, New York.

THE AZTEC CALENDAR STONE AND ITS SIGNIFICANCE

By Erwin P. Dieseldorff

IT is generally conceded that the Mexican Calendar Stone, known as El Calendario Azteca, is the most remarkable, beautiful and mysterious relic of the great Aztec nation. Many have been the attempts to decipher the meaning of its carving, but no explanation has received general approbation. After archaeologists of note, like Antonio Leon y Gama, Orozco y Berra, Leopoldo Batres, Alfredo Chavero, Antonio Peñafiel, Eduard Seler, and Herman Beyer have exhaustively treated the subject, there hardly appears to be room for further investigation. However, I have attempted it not only from the Aztec view, but from the angle of Maya research, the results of which I now place before the judgment of Americanists.

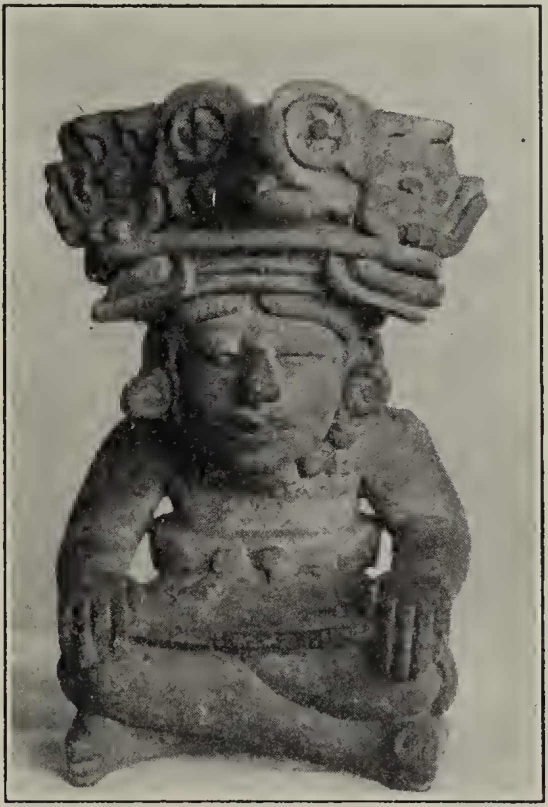
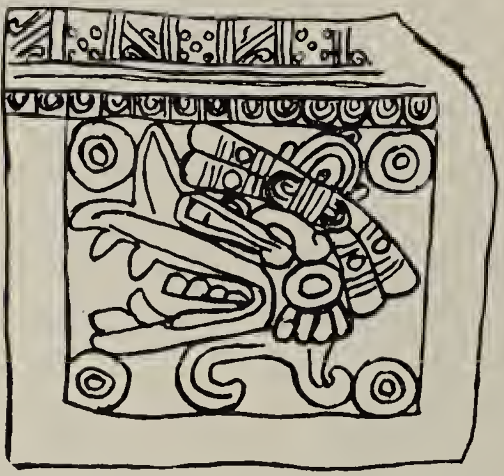


Fig. 1—A zapotec idol representing god e, museum für volkerkunde, hamburg

The explanation is based upon the reading of the glyph of five circles, which forms the ring situated between the band of the twenty Aztec days and the fringe of eagle feathers. This sign has been hitherto considered as of little import and to have a general meaning of no special value, but the Maya codices and monuments disprove it, as here it occurs in many different combinations. This sign consists of four circles in the corners of the rectangle or of the general outline of the glyphs and the fifth circle in the middle and is called quincunx, by Seler, and quinterno, by Beyer.

THE QUINCUNX

Instead of the five circles sometimes only four appear, the one in the middle being left out, but as either the one or the other figure appears as part of the month Pop, we must presume that this difference does not change the meaning of the glyph. Instead of circles, we find also squares or almond-shaped figures, which also do not change the significance. The glyph was probably evolved from two crossed bands with a circle in the center, as we find it in the eye of the owl forming the headdress of the Zapotec idol, representing God E from the Hamburg Museum (Fig. 1). The quincunx also appears on Aztec, Toltec, and Maya monuments and codices. Amongst the Aztec remains it is found:—



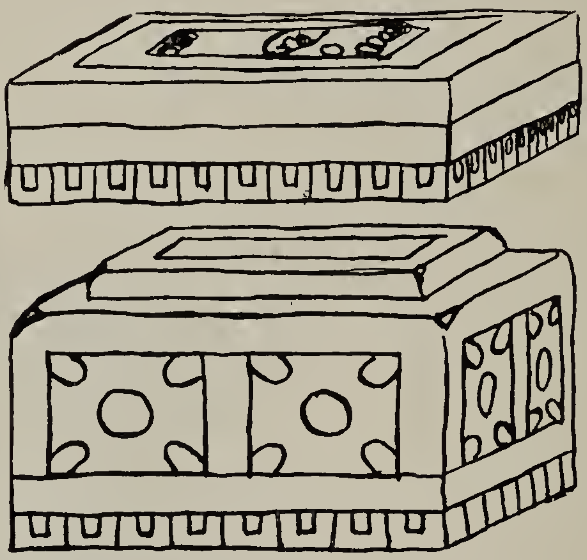
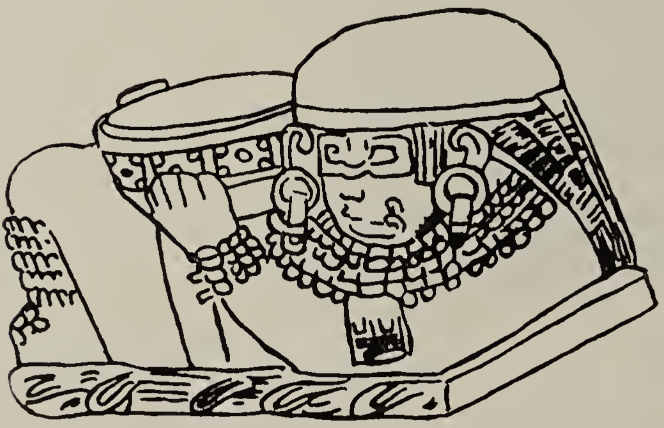


Fig. 2—SQUARE STONE FROM EL CENTRO MERCANTIL, MUSEO NACIONAL DE MEXICO

Fig. 3—STONE BOX, MUSEO NACIONAL DE MEXICO



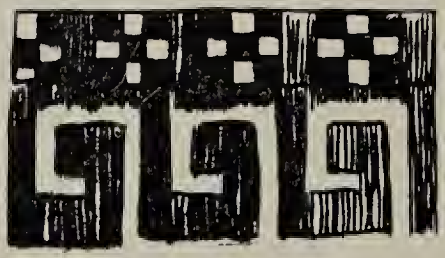


Fig. 4—CHACMOOL IDOL FROM TACUBAYA, CITY OF MEXICO

Fig. 5—PATTERN ON SIDE OF SMALL PYRAMID ON EAST SIDE OF EL CAMINO DE LOS MUERTOS, TEOTIHUACAN

1. On the Calendario Azteca.

2. On the quauhxicalli of Tizoc.

3. On the square stone found at el Centro Mercantil (Fig. 2) where the past four epochs of the sun are also expressed. Here the quincunx is employed together with the sign *ilhuitl* (day). The quincunx appears alternately with the day glyphs and it is therefore probable that it has a time value.

4. On the stone box from Tezcoco (Fig. 3) where two quincunxes are shown on each side and the day sign 11 *tecpatl* on the cover; here the quincunxes

are painted, the circles red on a blue ground and here also appear the eagle feathers which are yellow. The inside of the cover bears the glyph, explained by Seler as Tonatiuh *ilhuicac yauh* (the soul of the dead warrior) and on the bottom is the day 5 *couatl.*

5. As a border on the drum-like cylinder which the Chacmool from Tacubaya holds in his hands and rests on his body (Fig. 4). On Toltec remains the quincunx is found at Teotihuacan, the center of Toltec culture, as a border on a small pyramid; below it appears a line of feathers with square curvatures, representing certain days, the exact meaning of which has not been determined. Here we find five squares instead of circles (Fig. 5).

Among the Maya glyphs the quincunx is found in many combinations. It is always met in the right corner of the glyph for the first month of the Maya year—Pop—the beginning of the year at the sixteenth of July, old count, which would be the twenty-sixth of July of the present count. The quincunx is here enclosed by two straws bent around each other, in the way in which a reed mat, which is called *pop,* is commenced, the sign being very appropriate to express the beginning of time. Therefore the quincunx represents something which is closed by the first month of the year. This can only be either the past sun year or the five unlucky days, the *xma ccabá* kin. The first impression one has, is, that the five circles represent suns without rays which would fit in with the character of the last five days of the year when the sun was supposed to be powerless. In support of this theory one can adduce the fact that the God N, the ruler of the *xma ccabá* kin, called *Guayeyab,* or *Mam,* is often drawn with four circles as an ornament of the ankle (Figs. 6 and 7). But here the ornament may also be explained as year because *Guayeyab* means father of the year. The year is called in Maya dialect *hab, haab, chiab, yab,* and as Maya writing is ideographic, we can expect to find it there where the sound *yab* occurs in a word in combination with another sound. This is the case in the month *kayab, ka* meaning molar tooth

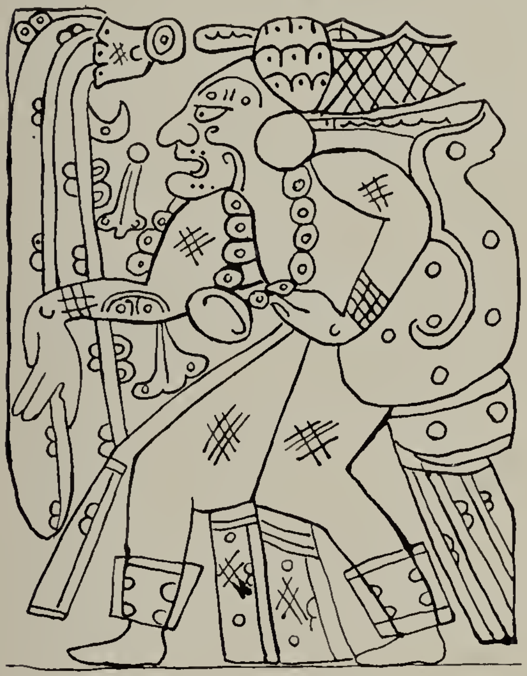


Fig. 6—god n from chamá

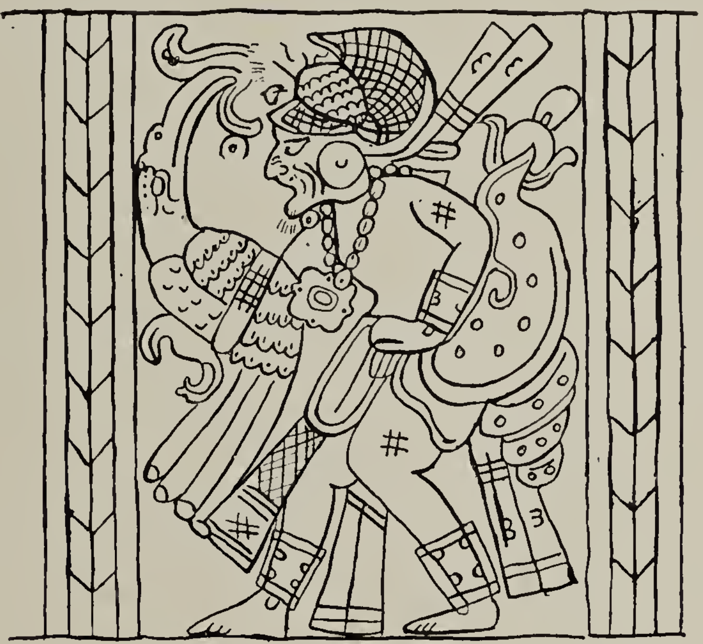


Fig. 7—god n from chamá

which is drawn by Landa as part of the sign of the month glyph. We can therefore expect that the second part stands for *yab,* year. In the glyphs of the codices and monuments no molar tooth is shown, but in the right corner of the snap turtle's head, which stands for the sign *kayab,* there always appears the quincunx, to which we can therefore apply the phonetic value *yab* (year).

There is, however, an additional proof that the quincunx signifies year and the Calendario Azteca supplies us with it. This sign appears as the ring next to the circle of twenty days. This quincunx ring is not shown uninterruptedly, but is overlapped and covered up by four sun darts. These are composed of two lines with a scroll at their lower ends which are joined together ending in a point; these darts always appear with Tonatiuh, the sun god. The artist of the monument very cunningly expressed that the line of quincunxes is not interrupted by the darts and other ornamental parts because the noses of the two dragons cover only part of the quincunxes, so that we have also to expect quincunxes in the places taken up by the sun darts. If we measure the place occupied by a sun dart, we find that it covers the space of three quincunxes, so that altogether twelve quincunxes are not visible; if we add this number to the forty quincunxes shown in the ring, we arrive at a total of fifty-two. This number can only refer to the epoch of fifty-two years called the binding together of the years, *toximmolpia,* when the day-wheel begins again. This period receives its importance from the circumstances that in the Maya day numeration fifty-two years were needed to complete the cycle in which each day had a different position. The Maya gave every day four specifications: the number which it had in the lapse of the thirteen-day wheel, the name of the day, the number which it had in the twenty-day wheel, and the name of the month. Unfortunately, the historians of the Maya do not report the ceremonies observed at the end of this important period, so we must fall back upon what Sahagun wrote about the ceremonies observed by the Aztec which I have translated from Alfredo Chavero:[1]—

THE FIRE CEREMONY AT THE END OF FIFTY-TWO SOLAR YEARS

When the wheel of the year was finished, at the beginning of the New Year which was named *umeacatl,* the inhabitants of Mexico and of the whole district used to celebrate a feast which they called *toximmolpia* and which is almost binding together of the years and this ceremony took place from fifty to fifty-two years, that is to say after each of the four days (year bearers) had reigned thirteen times for the years. This feast was called *toximmolpilia* which means, our years are bound together, and because it was the beginning of other twelve (note: it should be fifty-two years.) They called it also *xiuhtzitzquilo,* which means one takes hold of the new year, and to demonstrate it, every one caught hold of the plants, to express that now began the count of other twelve (it should be fifty-two) years, in order to complete one hundred and four (years) which make a (Mexican) century. In this way they produced the new fire and when the day approached which was chosen to produce it, every inhabitant of Mexico used to throw into the water, canals or lagunes, the stone or wooden idols which they adored as gods in their houses and also the stones and clay utensils which served in their homes to cook food and those in which they ground red peppers and they cleaned thoroughly the houses and lastly they extinguished all the fires.

A certain place was selected where the said new fire was produced, on the top of a hill which is called Vixachtlan which is on the boundary of the township of Iztapalapa and Colhuacan, two leagues from Mexico. Said fire was made at midnight and the piece of wood whereon the fire was produced was laid on the chest of a prisoner taken in the war and who was the most notable one. They produced the said fire from a well-dried board, with another large, thin stick, something like a lance shaft and when they got it produced and it was lit, immediately afterwards they opened the body of the captive and tore out the heart and threw it into the fire, like a firebrand and the whole body was consumed in the fire. Those that held the office to create the new fire were exclusively the priests, and specially the one from the quarter of the city called Copolco held the said office; he himself made the new fire. Above it is explained that they used to make the new fire in the hills of Vixachtlan and the custom which they followed to go toward that range was this: that in the evening of said feast when the sun had gone down, the priests of the idols got ready and clothed themselves and they put on the ornaments of the gods, so that they appeared to be these gods. At the beginning of the night they began to walk little by little, very slowly and with great solemnity and in silence and for that they called it *teunenemi* which means, they walked like gods. They started from the city of Mexico arriving at the said hill nearly at midnight, and the priest of Copolco whose office it was to create the new fire brought in the hands the instruments with which the fire was made. On the entire road from Mexico on he used to try the manner in which the fire was easily made. When the night came, in which the new fire had to be made, all were much afraid and were waiting with great fear what would happen, because it was said and they had this fable or belief amongst them, that if the fire could not be produced, there would be an end to the human race and that this night and darkness would be perpetual, that the sun would not be born again or arise, that from above would descend the Tzitzimitliz, which were some very ugly and terrible figures, which could eat up men and women, for which reason all went up to the roofs and there came together those of every house and nobody dared to remain below. All the people did nothing else but to look in the direction in which the fire was to be seen and with great anxiety they were waiting for the hour and the moment when it was to appear and the fire could be seen.

---

[1] *Anales del Museo Nacional de Mexico,* Tomo 2.

When the fire was produced, soon a large bonfire was made, which could be seen from far away and, when they saw that light, at once all cut their ears with obsidian knives and took the blood and threw it in the direction from which the light appeared and all were obliged to do so, even the babies in their cots, for even their ears were cut. When the large bonfire was made, as explained, the priests who had come from Mexico took from that fire immediately, because they were waiting for it and they sent with it the fleetest runners, who carried it in firebrands of pine wood made like a torch, all ran with great speed as for a wager, in order that the fire should be carried quickly to every town. Those of Mexico that carried the fire in said torches at once took it to the temple of the god, Vitzilopuchtli and they put it in a fire receptacle made of stone and mortar, which was placed before the idol and put in it much copal incense. From here it was carried to the dwellings of the priests and from there to all the inhabitants of the city and it was a remarkable sight to see that multitude of people who came for the fire. Large bonfires were made in every quarter of the town and also big feasts took place.

When the new fire was made in the said manner, in every town the people at once renewed their utensils and men and women put on new clothes and on the floor they put new straw mats, so that all things necessary in the house were new, as a sign of the new year which had begun, for which reason all were glad and celebrated great feasts. They said that now sickness and hunger had passed and threw much incense into the fire, they cut the heads of quails and with clay spoons offered incense to their gods. At noon they commenced to sacrifice and kill the prisoners (of war).

AZTEC STONE BOXES

These appear to be intimately connected with the fire ceremony. On the box of Riva Palacio (Fig 8) the fire god, Xiuhtecutli, draws blood from the ear with the bone dagger whilst together with him appears the fire dragon with the identical fire ornament on his neck which is also found on the same animals on the Calendar Stone. We also find here the knot on the tail, but as there is only one binding, it may here refer only to thirteen years. The god is represented drawing blood as an invitation to the people to follow his example, to imitate him.

THE CALENDAR STONE

The illustration of the stone represented here (Fig. 9) is a copy of the picture shown in the work of Leopoldo Batres, and although it is not quite correct, is the best which I was able to get. The details of the stone, with the exception of the quincunx ring, have been accurately explained by former investigators of whom the work of Herman Beyer[2] is notable for the great pains taken in reproducing and in explaining it, and it has stimulated my present endeavors. In the center is the face of Tonatiuh, the sun god, although I cannot recall one instance in Aztec and Toltec culture where he is similarly represented, a difficulty which has given rise to the belief that we have here to deal with Xiuhtecutli, the fire god, the old god; but against this hypothesis we can adduce the fact that this god is never represented in a circle, because a disk belongs only to the sun and the moon. Straight above him is the date 13 *cañas,* which is the day of the birth of the present epoch of the sun, the Olintonatiuh, the sun which we are living in and which, according to Aztec belief, will be destroyed by an earthquake one day. We can accept it as a fact that Tonatiuh is here shown, but it is not his usual aspect. His tongue, on which a sacrificial knife is drawn, hangs out, meaning that he is calling for human sacrifices. On a band covering his forehead is shown the number two and with it is a glyph often seen in connection with Tonatiuh. This sign, according to my reading, is closely connected with the double dart which appears immediately above him in the second ring and also to the two quincunxes which appear immediately below him, all of which express that the time represented in the Tonatiuh circles is to be doubled, is to be counted twice.

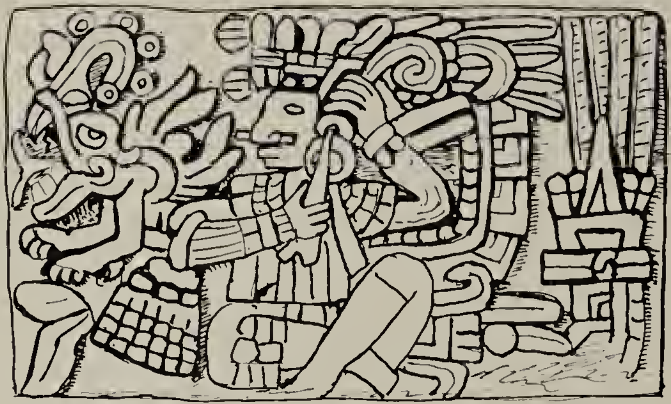


FIG. 8—STONE BOX OF RIVA PALACIO, MEXICO

In the second circle we find the four past suns or world epochs which have been destroyed according to the religious theory of the Aztec and are reproduced on the calendar stone in the following order:—

Ehecatonatiuh	Epoch destroyed by wind.
Quiauhtonatiuh	Epoch destroyed by rain of fire, volcanic eruption.
Atonatiuh	Epoch destroyed by a flood.
Ocelotonatiuh	Epoch destroyed by an eclipse.

These manifestations of nature, together with earthquakes, are the five catastrophes most to be feared in Mexico. The four epochs are cunningly arranged inside the sign four Olin, which Seler explains as the symbol of the present sun, whilst Spinden believes it to be the day when the world will come to an end. In the same circle we also find four glyphs which refer to the direction of the compass and two claws of the fire dragon grasping human hearts. The third circle consists of the well-known glyphs of the twenty Aztec days arranged to read from right to left, whilst with us it is customary to read the opposite way. The fourth ring contains the fifty-two quincunxes, or sun years, to which I have already referred. Then follows a border of eagle feathers which are always present on the *quauhxicalli,* as this word signifies calabash of the eagle, and thereby expresses that it is the receptacle of the food for the sun, as the calabash serves to receive the tortillas or maize bread, the food of the people. The *quauhxicalli* often have the shape of a calabash, a kind of pumpkin, and all vessels of that form must be considered to have served to collect the blood of the human sacrifice.

---

[2] Beyer, Herman, *El llamado Calendario Azteca.* Mexico, 1921.

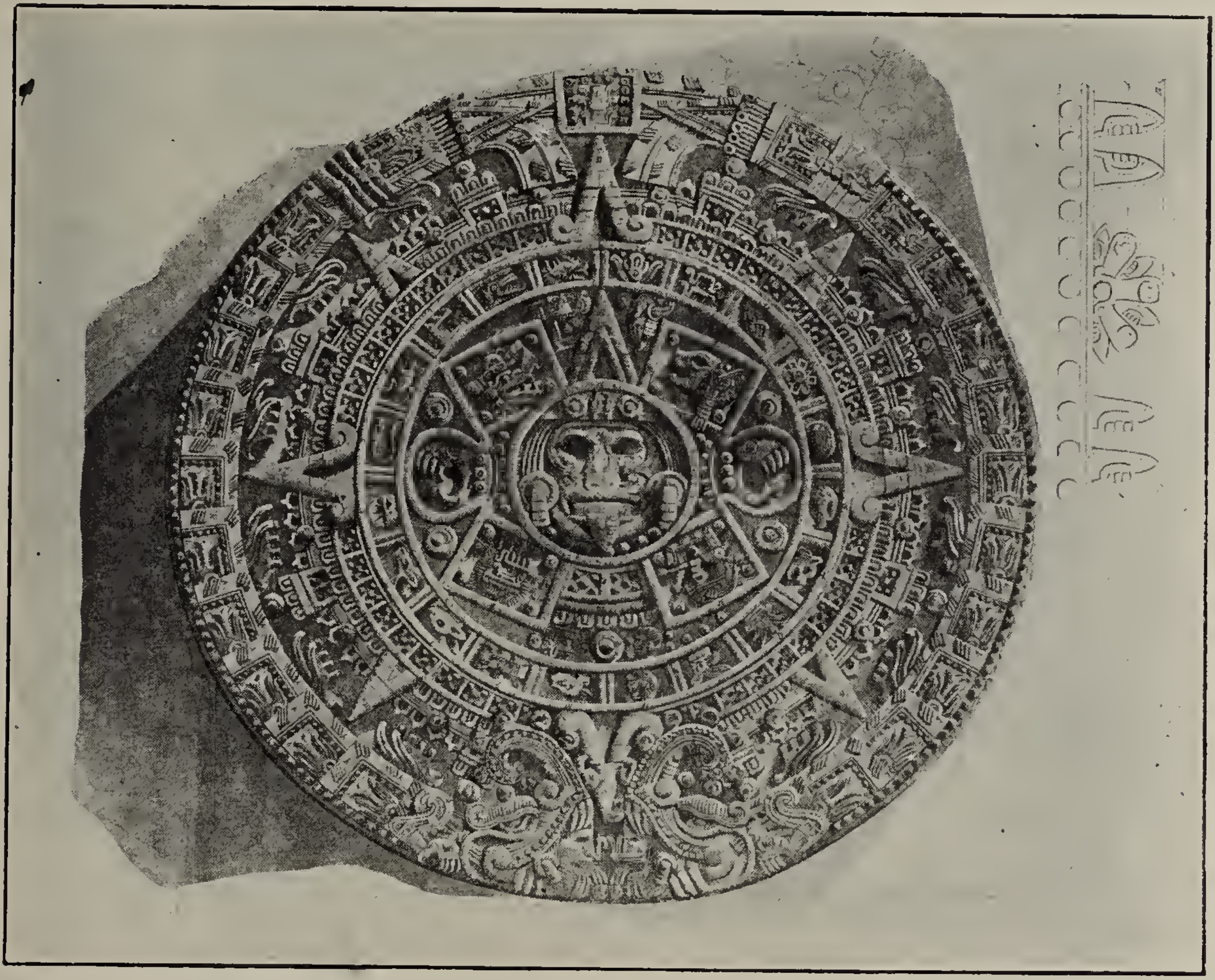
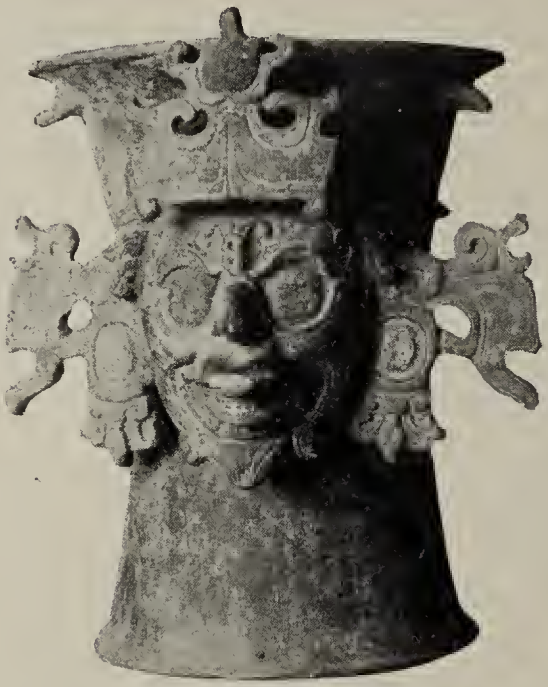


Fig. 9—el calendario azteca, museo nacional de mexico

The border is interrupted by four darts which may be sun darts without the scroll. On certain pottery in my collection these triangular darts represent one Venus round of five hundred and eighty-four days and it is therefore possible that here also they signify this length of time. In each of the eight sections there are ten feathers or eighty altogether. If we add to this number eight times three feathers found on the protruding quincunxes, we arrive at the number one hundred and four, which is the number of years which the Calendar Stone represents, in other words the eagle feathers are the command that every year human sacrifices must be made to the sun. Quite in accordance with this interpretation now follows a border, consisting of an ornament shaped like a spear, which means blood. The blood ring is interrupted by eight quincunxes adorned with eagle feathers and the numeral one, meaning that every eight years a special feast must be celebrated with sacrifices, which period is equal to five Venus rounds of five hundred and eighty-four days each, which makes a total of twenty-nine hundred and twenty days. I have in my collection a cylindrical vase from Chamá, on which is shown twice a design of crossbands or firesticks at the corners of which appears the numeral thirteen; at the same time a section is shown on which are eight circles and five triangles which refer to the period of eight solar years and equal five Venus rounds. Therefore, I have reason to believe that the eight prominent quincunxes, expressed on the Calendar Stone, refer to this period.



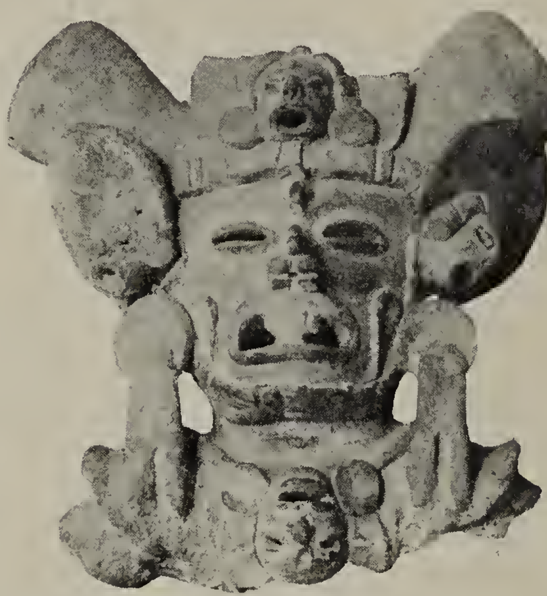


Fig. 10—URN FROM ROCNIMÁ NEAR CHAMÁ, REPRESENTING THE SUN GOD, XBALAMKÉ, DIESELDORFF COLLECTION IN BERLIN

Fig. 11—CLAY IDOL FROM CHICAMAM WITH THE SUN GOD IN PAIN, DIESELDORFF COLLECTION IN BERLIN

The border of the blood spurs properly ends the inside circle of the stone, but as the epoch of fifty-two years is not divisible by eight it was necessary to count it twice in order to arrive at the period which was divisible by the Venus round. This period the Aztec Siglo or Century contained one hundred and four years equal to sixty-five Venus rounds. The Aztec century of one hundred and four was peculiar in that it contained two sun calendar rounds and one Venus calendar round, which commenced with the same day, the same numeral and the same position of the month as the preceding calendar round. Therefore this period was a count beginning both for Sun and Venus and consequently of paramount importance for time reckoning. Before coming to this period which is expressed by the outer circle of two dragons, let us consider the face of the sun god.

Tonatiuh in Pain

The central figure of the stone is generally accepted as the face of the sun god but here the tongue is stretched out and the eyes are sunken, showing that the sun is in difficulties, afraid that the world is coming to an end and is therefore asking for human sacrifices. It is therefore of interest to examine the idols of the sun god made by the Maya, who called him Xbalamké or Kinich Ahau (Sun King). On an urn from Rocnimá (Fig. 10) the face of the new sun god is shown in all its glory, with a crown of flames, the beard in three parts, the snake tooth, the large eyes, and the bands starting below the eyes forming a figure eight above the nose and the pointed prominences of the urn, all of which are characteristic of the Maya sun god. This urn has a horizontal division in the middle so that the upper part formed a receptacle for the sacrifices. The opposite of this urn which is remarkable for the energetic expression of the face is an idol from Chicamam (Fig. 11) (Quiché District) whose expression is that of great pain, roughly but beautifully expressed by closed eyes and open mouth. Nobody would have thought that this is the face of the sun god if the artist had not fortunately attached the glyph of the sun below the nose. Here the sun wears armor on which are shown four disks with a death's head which is characterized by the open mouth. Formerly, I thought that these four disks referred to four unlucky days, but the study of the Calendar Stone made it just as probable that they represent the four periods of the sun that have perished. Amongst Aztec idols there is a group identical with the piece last described so that we can recognize them also as the god of sun in pain. One of these idols from Mexico, preserved at the Museum of Hamburg (Fig. 12), has, on a neckband, two glyphs of which one can still be recognized as the sign of the sun, proving thereby that the explanation arrived at is correct. Probably this idol had a *Quauhxicalli* in front of it to receive the blood offerings.

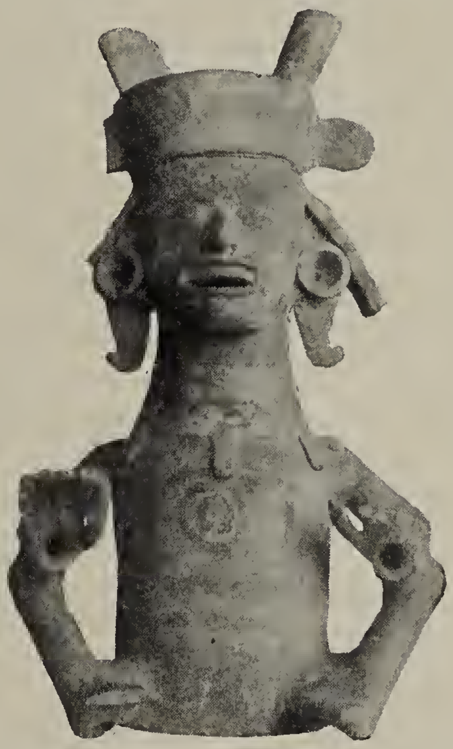


FIG. 12—AZTEC SUN GOD IN PAIN, MUSEUM FÜR VOLKERKUNDE, HAMBURG

I have also shown in my book *Kunst und Religion der Maya Völker* (Berlin, 1926) that the same idea of a god wearing armor, on which four disks hang, also occurs in Peru. I have been told that I should not have shown this combination as it is very much to be doubted that a connection was ever established between the Maya and the Peruvians. Yet, when Pizarro was at Panama he heard the story of a great empire to the South which caused him to form an expedition to conquer it. But one fact establishes without a doubt the great extension of the Maya civilization. We know that on pages 51 and 58 in the Codex Dresden, is repeated the system in which the eclipses of the sun may occur. The eclipses are visible only in a small part of the world, at a certain latitude, so that it would have been impossible to establish the underlying principle, or order, in which eclipses repeat themselves, if the Maya had only on hand the dates of all the eclipses that have ever occurred in the belt inhabited by that race, say, from latitude 15° to 20° N. They must have had a much larger field for observation and must have had observatories either reaching to Northern Mexico or, in a southern direction, beyond Panama. Only one fact, hitherto unexplained, can be brought forward against the interchange of the two great civilizations of Middle and South America: whilst the turkey is often represented on Aztec and Maya pottery it is entirely missing on Peruvian ceramics and also no turkey feathers are found in Peruvian feather-work. From this circumstance the deduction follows that the turkey was not known in Peru, whilst it was a treasured animal of every Aztec and Maya home.

The Two Dragons Xiuhcoatl

These fantastic animals, the name of which implies the blue snake, are known to represent fire and as the holy fire lasts fifty-two years, we may infer that each dragon represents that period. The distinctive feature of Xiuhcoatl is the curvature of the nose, bent backwards and studded with eyes representing the stars, the eternal fires of heaven. The same animal appears with one body, legs, and two heads in Maya Codex Dresdensis (p. 4–5) and out of its jaw issue the gods that produce the new fire. It is also found on the Maya monuments at Copan, on Temple 22 and on several other pieces of architecture, on the wooden tablets from Tikal, and also at Palenque. In these instances the right head of the dragon appears with the new fire symbol. On the famous vase from Acasaguastlan, Guatemala, now one of the treasures of the Museum of the American Indian, Heye Foundation, one of the snakes is Xiuhcoatl in connection with the new fire. I have referred to it extensively in a paper published in the *Anales de la Sociedad de Geografia é Historia de Guatemala* (Tomo V, p. 437). In the jaws of the two Xiuhcoatl of the Calendario appear the faces of two gods but, as in the drawing herewith presented, the figures are shown incorrectly, those who wish to study them, will do well to refer to the book of Herman Beyer. In the left jaw lies the face of Xiuhtecutli, god of fire, whilst in the right jaw appears a head which Beyer identifies as Tonatiuh. Both gods have in their mouths feathers on which the sacrificial knife is drawn, a design which might refer to the days of sacrifice in connection with the fire ceremony. The bodies of the dragons consist of squares, a peculiarity by which Xiuhcoatl is easily recognized in Aztec art. In the squares are drawn flames resembling a butterfly which represents a fire symbol. As the end of the body is covered with four knots, it is probable that each knot represents thirteen years.

The Maya had two distinct periods of counting: the *tun* of three hundred and sixty days and its multiplication by twenty and four hundred in which count never a day was missed. They also had the solar year which was corrected according to the sun and adjusted by the first appearance of a star in the eastern sky just before sunrise. In the solar year they had therefore to intercalate days, as the year is not exactly three hundred and sixty-five days. Landa reports that the Maya used to intercalate one day every four years while it is believed that the Aztec intercalated thirteen days at the end of fifty-two years, which system seems to me to have been followed also by the Maya. If the Maya followed this system they would have counted at the end of every cycle of four hundred years three days too much and would have had to drop three days in order to adjust the time again with the position of the sun. I believe I have found several instances in which at the end of the tenth cycle these three days were omitted. One could therefore expect to find the thirteen intercalary days on the two Xiuhcoatl. Such a number appears at the end of the tail, the place where it belongs, but unfortunately the small circles are either destroyed or badly drawn, so only from the original stone can it be ascertained whether this reading is correct. The large glyph between the two tails 13 *cañas* is the day when the present sun period is supposed to have commenced. On the vertical side of the Calendar Stone are shown raised circles which are stars in the nightly sky and below them appear sacrificial knives amongst which is a glyph which Beyer explains as Venus, which is however doubtful. The scroll under the eye which is shown is the sign of the moon, but it must be left in doubt whether here is represented Venus, the moon, or the Pleiades, because it is reported that the new fire was produced when this constellation was in the zenith. In Maya art we find the representation of the fire ceremony on the Chamá vase on Pl. 1 and 2 of *Maya Pottery.*[3] Here Xiuhtecutli is kneeling down with the firestick in the hand, whilst from the right enters the sun god with large steps but is detained by a figure representing probably cycle nine, holding in its hand a whip to drive out Xiuhtecutli, the old fire, so that the new fire may be lighted. Amongst the other four persons depicted in the scene, one of them holds another firestick. He is a captive because he is held by a rope bound around his neck and is to be sacrificed at midnight; pendent from the ears and as an ornament from his chest, is shown the sign of midnight, surrounding Pop, the beginning of the year. Of the row of glyphs, the first shows at the bottom the quincunx, which sign is here brought in connection with the fire ceremony, in the same way as on the Calendar Stone. For comparison it would be well to refer to the Maya round altars of Quiriguá, the one at the confluence of the Pasion and Chisoy rivers and of Piedras Negras, but unfortunately the glyphs of some of them are not readable or have not been drawn in such a way that they may be used for investigation.

PIEDRA DE TIZOC

An altar very similar to the Calendario Azteca is the Piedra de Tizoc, on which also appear four sections of eight quincunxes each, or the period of eight years, equal to five Venus rounds. This band encircles three rings with sixteen, forty, and forty-eight disks, all of which numbers are divisible by eight and when added make one hundred and four. This stone also refers to the Aztec century, the same as the Calendar Stone, but more especially to Venus. This is the *Quauhxicalli* or blood receptacle, because a hollow exists in the center, from which the blood was carried away in a channel.

---

[3] *Published by the University Museum, Philadelphia, 1925.*

CONCLUSION

The Calendario Azteca was a religious monument to remind the priests and the people that the world had passed through four catastrophes and that they were living in the fifth period, which would come one day to an end, at the conclusion of fifty-two years. It was a reminder that the sun needed human sacrifices to overcome the difficulties which the fire god would create and to hold back the doom, the earthquake. The stone was meant to inspire fear, the emotion on which most religions, and especially so, the Aztec religion, rested as the base on which its power and influence was built up. It was therefore an emblem of the power of the priesthood, whilst the companion stone, La Piedra de Tizoc, was the emblem of the military power to which the Aztec had risen.

These stones, besides being remarkable examples of the high artistic achievement of the Aztec, are also a proof of the religious tolerance of Hernan Cortez, because he did not destroy them, as he easily might have done, but saved them for posterity, for the honor of the great Aztec nation, and for the admiration of all the world.

COBAN, GUATEMALA.

DIE ERHALTUNG DER ALTINDIANISCHEN STEIN-DENKMÄLER

VON KARL SAPPER

DIE Erhaltung der altindianischen Stein-Denkmäler ist eine bedeutsame Angelegenheit, die den Amerikanisten im höchsten Masse interessierrt. Sind doch die Amerikanisten dazu berufen, den nachkommenden Generationen möglichst wohlerhalten die Zeugen der alten indianischen Kultur zu überliefern, damit diese noch an Originalen sich von der Höhe und Leistungsfähigkeit der altindianischen Technik und Kunstübung, ihrer künstlerischen Auffassung und z.T. auch ihrer psychologischen Einstellung zu verschiedenartigen religiösen, allgemein kulturlichen, wissenschaftlichen und praktischen Fragen zu überzeugen vermögen.

Man kann zu diesem Zwecke in der Hauptsache zweierlei Wege einschlagen: den der Aufbewahrung der Denkmäler (und genauer Pläne und evtl. Modelle der Bauwerke) in Museen, oder aber den Weg der Erhaltung an Ort und Stelle.

Es kann kein Zweifel darüber sein, dass die museale Methode vortreffliche Ergebnisse zeitigt. Denn durch sie werden die Kunst- und sonstigen Denkmäler den zerstörenden Einflüssen der Atmosphärilien ebenso entzogen, wie etwa die ethnographischen Gegenstände der Völkermuseen. Der Erfolg hat gezeigt, dass sogar sehr schwere und recht umfangreiche Denkmäler dieser Art in Museen aufgestellt und aufbewahrt werden können und so nach aller menschlicher Voraussicht noch nach vielen hunderten von Jahren dem Forscher und Kunstfreund ein Studium und Geniessen der Werke längst ausgestorbener Indianergeschlechter gewährleistet ist. Ich brauche hier nur an die herrlichen Steinbildwerke von Santa Lucia Cozumalhuapa im Berliner Völkerkunde-Museum zu erinnern.

Dass die museale Aufbewahrung für kleine Gegenstände aus Stein, Ton, Holz, oder anderen Stoffen die einzig mögliche ist, und dass es unmöglich wäre, solche Dinge an Ort und Stelle und in ihrer ursprünglichen Lagerung aufzubewahren, darüber ist wohl kein Zweifel möglich. Anders aber steht es schon mit den grossen Kunstdenkmälern, die eine gewisse Kultur- und Kunstblüte bestimmter Stämme und Landgebiete bezeugen und im Museum wie entwurzelt wirken. Wenn ich mir z.B. vorstelle, welch tiefen Eindruck mir etwa das Riesenhaupt oder die sonstigen Steinmonumente in El Baul erst vor wenigen Monaten in der freien Natur under dem lachenden Tropenhimmel Guatemalas angesichts der gewaltigen Aussicht auf die pazifische Küstenebene und den fernen Streifen des Stillen Ozeans gemacht haben und ich damit die Gefühle vergleiche, die ich kurz darauf angesichts der oben erwähnten herrlichen Stelen von Cozumalhuapa im Berliner Völkerkunde-Museum empfand, so muss ich gestehen, dass der Museumsstaub inmitten der fremdartigen Umgebung von anderen Altertümern, wenn auch derselben Gegend, doch wie ein Mehltau auf das Gemüt wirkt und wohl der wissenschaftlichen Reflexion und Überlegung, nicht aber der mit der alten Zeit und dem volkseigenen Gefühl längstvergangener Indianergeschlechter mitschwingenden Seele Raum zur Betätigung lässt. Es ist im Museum stets etwas Nüchternes, Abstraktes in der Luft, weil der Genius loci, der Einfluss der Umgebung des Landes und seiner Urbewohner, nicht im Unterbewusstsein des Beschauers mitwirkt, sondern nur dem rechnenden Verstand noch erreichbar bleibt.

Wenn ich nach meinen eigenen Empfindungen gehe, so kann ich es den Regierungen der verschiedenen ibero-amerikanischen Länder, in deren Gebiet wichtige Ruinenplätze liegen, durchaus nachfühlen, dass sie sich gegen die Ausfuhr ihrer Altertümer sträuben, denn in der Tat: sie wirken im Ursprungsland unter allen Umständen viel unmittelbarer, um so mehr als vielfach in diesen Gebieten der lebende Indianer noch zahlreiche Parallelen bietet und daher beim Betrachten der Altertümer immer auch wieder das ethnographische Studium neue Anregung empfängt und sicherlich auch zu wertvollen Ergebnissen führt. Freilich ist zu bedauern, dass so manches Land, das reichhaltige archaeologische Schätze in seinen Grenzen birgt, bisher nur ganz ungenügend für Erhaltung und Nutzbarmachung seiner Denkmäler aus der alten Zeit sorgt oder sogar überhaupt kein nennenswertes Museum unterhält und damit den Angehörigen fremder Länder eine Art moralischer Berechtigung gibt, ihrerseits die erreichbaren Reste der alten indianischen Kulturen an sich zu ziehen und in ihren Schausammlungen auszustellen.

Aber wenn schon die Kleingegenstände alter Kultur im fremden Lande nicht mehr dieselbe Wirkung zu entfalten vermögen, die ihnen zukommt, solange sie in ihrem Ursprungsland sich befinden, so vollends die Grossdenkmäler, wie sie etwa in den Stelen der mittel-amerikanischen Ruinenplätze, oder den steinernen Einzeldenkmälern Colombias Perus oder Boliviens uns vorliegen. Denn diese üben doch schon durch ihre Grösse eine weit tiefere Wirkung aus, als die Kleinobjekte, weil sie Menschen und Gegenstände in natürlicher oder selbst übernatürlicher Grösse darstellen und damit den Vergleich zu den entsprechenden Menschen und Dingen der Gegenwart viel eindrucksvoller vor Augen führen, als selbst die künstlerisch vollendetsten Nachahmungen in stark verkleinerten Masstäben, wie sie etwa auf dem berümten Gefäss von Chamá oder anderen auf Tongefässen dargestellten Malereien Mexikos, Mittelamerikas oder Perus uns entgegentreten und unsere uneingeschränkte Bewunderung hervorrufen. Weitaus am meisten aber wirken die Grossdenkmäler an ihren Ursprungsstellen innerhalb des ursprünglichen Verbandes der alten Ruinenplätze: an den Orten, an denen sie ehedem in alter Zeit gestanden hatten. Es ist kein Zweifel, dass grosse Kunstdenkmäler am besten da bleiben, wo sie einst aufgestellt worden waren!

Da wirken sie auf das Gemüt des empfänglichen Beschauers wie ort-, erd- und volksgeboren. Man spürt den Hauch des Milieus, wenn man einsam an solchen Ruinenstätten steht und dieselbe Luft atmet, dasselbe Licht auf sich wirken lässt, denselben Himmel über sich, dieselben Berge um sich sieht, wie einst die alten Indianer an diesen Plätzen! Keine noch so sorgfältige Aufstellung im künstlerisch angeordneten Museum kann ersetzen, was der Besucher an der Ruinenstätte selbst empfindet.

Wenn aber wirklich dem so ist, so muss man gerade zu verlangen, dass die grossen Steinskulpturen alle oder wenigstens zum grössten Teil an ihrer ursprünglichen Stelle in der alten Umgebung von Bauten und sonstigen natürlichen und künstlich angebrachten Sonderheiten der Umgebung stehen bleiben!

Aber die prosaische Wirklichkeit gibt dem ideal eingestellten Beobachter doch wiederum schwere Rätsel zu lösen auf, wenn er, wie Schreiber dieser Zeilen, nach mehreren Jahrzehnten wieder dieselben Ruinenstätten besucht, wie einstens, und feststellen muss, dass in dieser Zeit gewaltige Veränderungen an den Denkmälern vor sich gegangen sind. Selten nur sind diese Veränderungen erfreulicher Art. So etwa an den Ruinen von Teotihuacan in Mexiko, die vor einem Jahrzehnt von der Regierung des Landes restauriert worden sind und darum jetzt einen so viel tieferen und erhebenderen Eindruck hinterlassen, als früher, da sie nur eben aus einer Summe fast formloser Steinhaufen grosser Ausmasse bestanden, indess sie jetzt dem Beschauer eine Ahnung der ehemaligen Grösse der Anlage und der Ausschmückung dieser Gebäulichkeiten übermitteln und ihn zugleich dieselbe Landschaft geniessen lassen, die einst auf die Psyche und das Auge der alten Mexikaner gewirkt haben. Ich weiss es wohl, dass über die Zweckmässigkeit und Richtigkeit so mancher Einzelwiederherstellungen dieser Ruinenstätte sehr berechtigte Zweifel vorgebracht worden sind, und dennoch muss man der mexikanischen Regierung und Gamio, dem Leiter der Arbeiten, dankbar für diese Restauration sein, weil sie die erste derartige Arbeit auf amerikanischem Boden ist, die einen Schimmer des Geistes und der künstlerischen Auffassung der alten Indianer dem Besucher der Jetztzeit zu übermitteln vermag. In diesem Sinn erfreulich sind neuerdings auch die Restaurierungsarbeiten der Carnegie Institution in Chichenitzá u. a. In anderen Fällen hat der Mensch zwar auch in den letzten Jahrzehnten eingegriffen, aber bei bester Absicht doch nur negative Erfolge erreicht, insofern die Steinskulpturen vielfach ganz ausserordentlich gelitten haben, stellenweise sogar so schwer, dass man sich sagen muss, dass schon die übernächste Generation nichts mehr zu bewundern vorfinden wird, wenn nicht jetzt energische Schritte zur besseren Erhaltung der Denkmäler ergriffen werden.

Auf dem Amerikanistenkongress in Rom hat bereits E. P. Dieseldorff die Aufmerksamkeit der Versammlung auf die Notwendigkeit besseren Schutzes der Denkmäler gelenkt und ich habe seine Anregungen damals in eine kurze Resolution zusammengefasst. Da ich aber der Überzeugung bin, dass damit noch lange kein genügender Schutz der Denkmäler gewährleistet ist, so komme ich heute nochmals auf diese Frage zurück.

Ich rede hier nicht von der in allen Teilen der Erde gelegentlich zu beobachtenden Tatsache, dass trotz der besten Absichten und Massnahmen der verschiedensten alt- und neuweltlichen Regierungen und trotz der Stationierung von besonderen Kustoden in den Ruinenplätzen selbst, immer wieder Zerstörungen gewisser Einzelheiten oder Entwendungen von Ornamentteilen u.a. vorkommen—zuweilen sogar unter Mithilfe der Kustoden selbst—sondern ich möchte hier nur von denjenigen ungünstigen Veränderungen der Denkmäler sprechen, die eine Folge der Naturverhältnisse an den Ruinenstätten selbst sind: der Verwitterungserscheinungen.

Diese sind nun ausserordentlich verschieden stark, je nach der Gesteinsart der Bildwerke, sowie nach dem Klima und der pflanzlichen Umgebung der betreffenden Ruinenstätten. Man beobachtet an den verschiedenen altindianischen Ruinen die allerverschiedensten Höhenlagen, Klima-unterschiede, und Vegetationsformationen. Zwischen dem Meeresspiegel und mehr als 4000 m. Höhe, zwischen den trockensten und regenreichsten Gebieten und innerhalb der ganzen Stufenleiter von Vegetationsformationen von der Wüste bis zum üppigsten regenfeuchten Urwald sind die Ruinen verteilt, womit sich natürlich auch die Frage der Erhaltung der Denkmäler sehr schwierig gestaltet und *jedenfalls nicht nach einheitlichem Rezept gelöst werden kann.* Dazu kommt ferner, dass die Gesteinsarten, aus denen die Denkmäler hergestellt sind, äusserst verschiedenartig sind und darum auch recht verschieden starke Widerstandskraft gegen die Verwitterung, den Hauptfeind der Denkmalserhaltung, ziegen.

Bleiben wir zunächst beim letztgenannten Moment stehen, so finden wir, dass die stärkste Wetterbeständigkeit denjenigen Gesteinsarten zukommt, die aus sehr feinkörnigem Material bestehen und auf weite Entfernungen hin klüfte- und spaltenfrei sind, wie die glücklicherweise so häufig verwendeten Andesite und Basalte oder aber ältere Eruptivgesteine, während Sandsteine am raschesten der Verwitterung erliegen, vor allem dann, wenn sie sehr ungleichmässiges Korn aufweisen und wenn zwischen feinkörnigen Lagen dann und wann wieder ganz grobkörnige Schmitzen oder Bänkchen sich einstellen, wie so oft z.B. in Quiriguá, wo zudem nicht selten feine Kluftsysteme durchziehen, denen nach leicht Abblätterungen erfolgen. Feinkörnige Kalke sind in Chiapas (Palenque) und Yucatan nicht selten zur Herstellung von Basreliefs verwendet worden, wobei diese vielfach von vornherein durch die Gebäude selbst schon einen Schutz erfuhren; seltener sind sie, wie in Palenque, auch wohl schräg im Hofraum aufgestellt gewesen, wo sie dem Regen und den Temperaturschwankungen besonders ausgesetzt waren. Zuweilen hat man kristalline Schiefer für Skulpturen benützt. (Die Zapotehölzer, die in Tikal mit so herrlichen Schnitzereien versehen gewesen sind, waren fast ausschliesslich im Inneren der Gebäude, vielfach als obere Türbalken verwendet und vermochten so verhältnismässig gut die Jahrhunderte zu überdauern, was auch von den Wandmalereien von Innenräumen gesagt werden kann z.B. Chichenitzá).

Die verschiedene Höhenlage bedingt nur mittelbar einen verschiedenen Grad der Widerständigkeit gegen Witterungseinflüsse, insofern nämlich die höhere Wärme des Tieflandes der chemischen Verwitterung starken Vorschub leistet, also in dieser Richtung die tiefgelegenen Monumente rascherem Verderben aussetzt als die höher gelegenen. Aber demgegenüber ist festzustellen, dass andererseits die hochgelegenen Denkmäler die Gefahr laufen, im Fall des Vorhandenseins feiner Sprünge, äusseren Sprengungen durch Spaltenfrost ausgesetzt zu sein, was z.B. trotz der Lage in den Tropen für Tiahuanaco zutrifft, weil die Höhenlage nur wenig unter 4000 m. bleibt. In der Tat zeigen die dortigen Denkmäler Verletzungen, die sehr wohl durch Spaltenfrost entstanden sein können (so die drei Monumente, die nachträglich an der Bahnlinie aufgestellt worden sind oder auch der Fraile).

Dass die frei in der Luft stehenden Monumente von Tiahuanaco nicht noch weit stärker unter dem Spaltenfrost zu leiden gehabt haben, als die Wirklichkeit zeigt, verdanken sie nur dem Umstand, dass zur Zeit der grössten Temperaturherabsetzung gerade der Niederschlag ausserordentlich gering ist, also die Gelegenheit zur Spaltenfrostbildung nur sehr selten gegeben ist. Und wenn es regnet oder auch wohl einmal schneit, so hilft wieder die sonst sehr geringe Luftfeuchtigkeit des Hochlandes die Einwirkung herabzusetzen.

Überall wo die Luftfeuchtigkeit niedrig und der Regen nach Menge und Dauer gering ist, ist das Klima der Erhaltung der Monumente günstig: Jahrhunderte lang vermögen die Bildwerke sich in recht erträglichem Zustand an freier Luft zu erhalten. Ja, Tiahuanaco würde in seiner Gesamtheit noch immer einen imponierenden Eindruck machen, wenn der Platz in dem steinarmen Gebiet nicht von nah und fern bis in die jüngste Zeit hinein als Steinelieferant bei Neubauten benützt worden wäre, worüber A. Posnansky in seinem Führer zu den Ruinen beweglich klagt. Die Berechtigung dieser Klage kann übrigens jeder Besucher Tiahuanacos bestätigen, wenn er sich das Material der neuen Markthalle auf dem grossen Platze vor der Kirche des Dorfes betrachtet.

Die Besonnung der Monumente in trockenen Landschaften steigert häufig die Temperatur der äussersten Lagen derselben sehr stark und wenn dann bei Nacht ein starker Temperaturrückgang einsetzt oder plötzlich kühle Regen niedergehen, so besteht die Gefahr, dass infolge der Abkühlung kleine Splitterchen oder auch schon vorher gelockerte grössere Stücke abspringen und damit allmählich zur Zerstörung des Bildwerks führen, wofür die Memnonssäulen Aegyptens das bekannteste Beispiel sind. Da die Gefahr der Absplitterung durch die jähe Abkühlung um so grösser ist, je grösser der Temperaturunterschied zwischen der Temperatur der Gesteinsoberfläche und der des Regenwassers ist, so begreift man, dass die Gefahr im tropischen Tiefland bei sonst gleichen Bedingungen im allgemeinen grösser ist, als im Hochland. Andererseits ist die Möglichkeit des Absplitterns um so grösser, je häufiger und ausgesprochener kleine Ritzchen und Sprünge in dem Gestein vorhanden sind, weil in ihnen die Feuchtigkeit die Verwitterung ins Innere tragen und damit weitere Abschälung begünstigen kann. Darum war es zweifellos ein äusserst günstiges Verfahren, dass die alten Aegypter ihre Syenitbildwerke polierten und damit die Möglichkeit von Sprungbildung und Wassereindringung auf ein Minimum herabsetzten.

Besonders gefährlich ist die Besonnung in Fällen, wo das Bildwerkmaterial stark ungleichartig ist, sei es dass es aus einzelnen Krystallen verschiedener Farbe besteht, oder aber, wie Sandsteine, aus verschieden grossen Einzelbestandteilen zusammengesetzt ist. Denn die ungleichmässige Erwärmung der einzelnen Partieen bedingt auch ungleichmässige Ausdehnung und Zusammenziehung derselben, womit eine Lockerung des Gefüges verbunden zu sein pflegt. Dem haben die alten Indianer offenbar dadurch entgegenzuwirken gesucht, dass sie dem ganzen Bildwerk einen einheitlichen einfarbigen Anstrich gaben, der die Erwärmung gleichmässig über die ganze exponierte Fläche verteilte, zugleich aber auch die Abkühlung im Falle von Regen abschwächte und mehr oder weniger vereinheitlichte. Dass der Anstrich nur ganz dünn genommen wurde, hatte den günstigen Erfolg, dass die Feinheit der Skulptur dadurch nicht wesentlich beeinträchtigt wurde. Zudem wurde die Farbe des Anstrichs oft ungefähr der

Farbe des Gesteins angepasst, um die ursprüngliche Wirkung derselben immer noch in der Hauptsache zur Geltung bringen zu können.

Politur und Anstrich gewährten auch einen gewissen Schutz gegen die chemische Verwitterung, die um so kräftiger einsetzen kann, je feuchter und wärmer das Klima ist, also vor allem in den regenfeuchten Tropengebieten stark wirksam wird, denn sie halten die Feuchtigkeit vom Eindringen in das Innere des Gesteins ab und zudem verschliessen sie die kleinen Poren, Spältchen, Sprünge und Klüftchen, die manches Gesteinsmaterial mehr oder weniger reichlich durchzichen, am reichlichsten die Sandsteine. Ausserdem schützen beide, vor allem aber der Anstrich gegen die mechanischen Wirkungen des auffallenden Regens, der ja in den Tropen oft mit ungewöhnlich grosser Wucht niedergeht und etwa gelockerte Aussenbestandteile sofort abschwemmt. Leider wirkt der Platzregen aber auch abschwemmend auf den Anstrich selbst, so dass dieser von Zeit zu Zeit erneuert werden müsste, um die Erhaltung der Denkmäler auf möglichst lange Zeiträume zu gewährleisten.

In den periodisch feuchten Gebieten des Hochlandes von Mexiko, Mittelamerikas, und Perus herrschen während der trockenen Jahreszeit die Bedingungen des Trockenklimas, während der Regenzeit die des feuchten Klimas, was bedeutet, das während eines Teiles des Jahres mehr die mechanischen, während des anderen mehr die chemischen Einflüsse sich zerstörend geltend machen können, was als wenig günstig für die Erhaltung der Monumente angesehen werden muss.

Wenn die Bildwerke der alten Zeit, die im Freien stehen, schon von der unbelebten Natur vielfach angegriffen werden, so sind auch belebte Feinde derselben zu verzeichnen: an rauhen, bereits etwas angegriffenen Stellen des Gesteins siedeln sich Bakterien und Flechten, bei weiterer Verwitterung auch Moose und andere Pflänzchen an und wirken chemisch und mechanisch auf die Umgebung ihrer Ansatzstellen ein. Auch gegen diese ist der Anstrich oder die Politur wirksam.

Zu den belebten Feinden der Bildwerke gehört aber auch der Mensch und seine Zerstörungen gehören zu den allerstärksten. So kommt es häufig vor, dass die menschlichen Kulturen allmählich in die Gegend früherer Kult- und Wohnplätze vordringen. Damit stellen sich nach den im tropischen Amerika üblichen altindianischen Anbaumethoden Rodungen ein, die darin bestehen, dass die Bäume und Sträucher niedergeschlagen und nach dem Austrocknen abgebrannt werden. Es versteht sich, dass auf diese Weise die Oberflächen der Bildwerke für eine kurze Zeit starker Hitze ausgesetzt werden, wodurch natürlich das Abblättern der Oberflächenlagen sehr begünstigt wird. Noch schlimmer ist es in den Fällen, wo Kalksteine verarbeitet sind, weil der kohlensaure Kalk an der Oberfläche geradezu gebrannt wird und dann natürlich gegen Regenwasser keinerlei Widerstandskraft mehr entfalten kann, wie bei der ersten Untersuchung von Palenque, als der niedergeschlagene Wald abgebrannt wurde, nur allzu deutlich sich gezeigt hat eine Lehre zugleich für alle Erforscher von Ruinenplätzen, die im Wald oder Busch liegen: das niedergeschlagene Holzwerk darf in solchen Fällen nicht abgebrannt, sondern muss mechanisch entfernt werden da sonst die Bildwerke aufs Äusserste gefährdet werden.

Nicht ganz ohne Einfluss auf die Erhaltung der Bildwerke alter Zeit ist ferner die Vegetationsformation, innerhalb deren sich die Monumente befinden. In wüsten- oder steppenhaften Gebieten schafft die niederwüchsige und spärliche Pflanzenwelt allerdings kaum Schaden, aber wo die Bildwerke tief in hohem Gras oder Buschwerk stehen, da werden sie bei Wind wieder und wieder von den Blättern der Gewächse bestrichen, womit eine leichte Abnützung erfolgt, die, so klein sie auch im einzelnen Fall ist, doch im Laufe längerer Zeit allmählich sich zu etwas grösseren Wirkungen summiert, namentlich dann, wenn die Gewächse Kieselsäurekryställchen eingeschlossen enthalten. Vor allem aber wird die Einwirkung der anstreifenden Pflanzenorgane erfolgreicher, sobald es öfters und stark regnet, weil in dem Pflanzendickicht die Verdunstung nur verlangsamt vor sich geht und infolgedessen die Monumente längere Zeit, als bei völligem Freistand der Fall wäre, mit reichlicher Feuchtigkeit bedacht werden, womit wiederum die chemische Beeinflussung des Gesteins verstärkt, also die Zerstörung beschleunigt wird.

Anders liegen die Dinge im geschlossenen regenfeuchten Tropenwald, der nach oben wie nach den Seiten hin durch dichtestes Blattwerk gegen die äussere Atmosphäre abgeschlossen ist und damit austrocknende Winde abhält, also im Innern des Waldraums die Luftfeuchtigkeit das ganze Jahr über auf gleichmässiger Höhe erhält. Derselbe pflanzliche Abschluss des inneren Waldraums nach aussen hin schliesst aber auch die Sonnenstrahlen hermetisch ab, sodass das Moment der Besonnung mit seinen zerstörenden Wirkungen völlig ausgeschaltet wird. Nicht minder schwächt er aber auch die täglichen Temperaturschwankungen ganz ausserordentlich und scheidet damit ein im offenen Gelände sehr wirkungsvolles Zerstörungsmittel aus. Aber damit noch nicht genug; der Abschluss des inneren Waldraums bewirkt auch, dass der im freien Feld oft so ungestüme Anprall der Regentropfen wegfällt, insofern die verschiedensten Einrichtungen des Urwalds sowohl dahin arbeiten, einen Teil des gefallenen Regens gleich festzuhalten und von der weiteren Zirkulation auszuschliessen, (was durch manche Blüten und Cysternepiphyten in bemerkenswertem Masse erreicht wird), als auch die fallende Bewegung der Wassertropfen in eine gleitende oder stufenartig hüpfende zu verwandeln, welch ersteres durch Lianen, Luftwurzeln, Äste und Zweige, letzteres durch die Blattdickichte der Baumkronen und durch die an schräg aufragenden Baumstämmen oft zu beobachtende treppenartige Anordnung epiphytischer, kletternder und schlingender Blatt- und Krautgewächse erreicht wird.[1] In diesem Sinn ist der tropische, feuchte Urwald geradezu als ein Erhalter der Denkmäler aufzufassen, wenngleich nicht zu leugnen ist, dass die chemische Verwitterung und die Ansiedelung niedriger Pflänzchen an den Denkmälern auch im Waldraum vor sich geht. Dass aber trotzdem die erhaltenden Momente über die zerstörenden im Urwald überwiegen, beweist der vortreffliche Erhaltungszustand vieler im Wald verborgener Ruinen Yucatans, Guatemalas und Chiapas, in denen die Stelen und sonstigen Kunstdenkmäler zuweilen bei der Entdeckung eine ganz überraschend gute Erhaltung gezeigt hatten. Aber dieser günstige Erhaltungszustand schwindet in vielen Fällen rasch dahin, sofern nämlich die wissenschaftliche Erforschung es notwendig macht, den Wald niederzuschlagen und längere Zeit zu unterdrücken:

---

[1] Vergleiche: Sapper, Karl, *Über die geologische Bedeutung der tropischen Vegetationsformationen in Mittelamerika und Südmexiko*, Leipzig, 1900, S. 22 ff.

dadurch wird der Sonne, den Winden, dem Regen, den jäheren Temperaturschwankungen der Weg zu den Denkmälern geöffnet damit aber wird der rascheren Zerstörung überliefert, was bisher verhältnismässig gut geschützt gewesen war. Wenn nach erneuter Überlassung des betreffenden Geländes an die Naturkräfte der schützende Wald wieder Besitz von der Fläche ergreift, so hat er bereits ein etwas kränkliches Ruinenmaterial in seinem Schoss, und schlimm ist es, wenn öfters neue Expeditionen den Vorgang der Abholzung und der damit verknüpften Blosslegung der Monumente vor Sonne und Regen wiederholen, denn jedesmal wird in solchen Fällen eine neue Verschlechterung der Erhaltungsbedingungen erreicht. Wohl sagt man mit Recht, dass die auf Ruinengebäuden wachsenden Holzgewächse, namentlich die grossen Bäume, durch ihre Wurzeln nicht selten das Gefüge der Mauern sprengen und damit zerstörend wirken. Aber so gewiss das richtig ist, so ist andererseits auch Tatsache, dass die Wurzeln der Bäume das Gefüge der Mauern, oder, wo sie durch Risse von Denkmälern durchgewachsen sind, auch von diesen zusammengehalten werden so lange sie leben, was oft eine sehr lange Reihe von Jahren der Fall ist. Wenn aber einmal die Bäume gefällt sind, so verrotten die Wurzeln verhältnismässig schnell und nun stürzen die aus dem Gleichgewicht gebrachten Mauern zusammen, wenn man nicht vorher in kluger Voraussicht für die Erhaltung des Mauerwerks oder der Monumente Vorsorge getroffen hat, was manchmal gar nicht schwer wäre, indem man z.B. alsbald Erdreich aus dem davon erfüllten Innenraum der Mauerumwallung soweit entfernt, dass auch bei der in Urwald regionen so häufigen völligen Durchtränkung der Bodens dessen Druck die Mauer nicht hinausdrückt.

Wenn die Wissenschaft in ihrem Drang immer genauerer Durchforschung der Ruinenplätze sie durch öftere Abholzung manchmal nicht unerheblich schädigt, so tut unüberlegte Dauerabholzung, wie sie manchesmal in der Absicht besserer Übersichtlichkeit durchgeführt wird, noch weit grösseren Schaden, da sie die Denkmäler nun dauernd den stärker zerstörenden Kräften überliefert (z.B. Quiriguá, Copán). In solchen Fällen ist die baldige völlige Zerstörung der alten Denkmäler in sicherer Aussicht, wenn es nicht gelingt, den Urwaldschutz in kürzester Frist wiederherzustellen und in der Zwischenzeit die einzelnen Stelen und sonstigen Denkmäler durch Überdachung gegen die unmittelbaren Wirkungen des Regens und der Besonnung zu schützen. Man darf dabei nicht etwa an die Aufstellung eines Wellblechdaches denken, denn unter einem solchen würde während des Tages eine ausserordentlich hohe Temperatur sich einstellen, der bei Nacht eine verhälnismässig recht intensive Abkühlung folgen würde—Momente, die wieder im Sinn der Zerstörung (durch die Temperaturschwankungen) wirken würden. Nun ist freilich zugegeben, dass die Anbringung von Schornsteinen, wie sie bei den indischen meteorologischen Hütten vorgesehen sind das Übel wesentlich mindern würde, da dadurch ein Abzug der überhitzten Luft jeweils nach oben hin ermöglicht wäre. Aber weit besser und zugleich ästhetisch wesentlich zufriedenstellender wäre die Erbauung von steilen Blätterdächern, wie sie die Eingeborenen der betreffenden Gegenden rasch und ganz billig herzustellen pflegen (so etwa in Quiriguá aus Corozopalmblättern). Auch bei solchen Blätterdächern wäre auf Anbringung von einem oder zwei Schornsteinen in der Mittelaxe des Daches zu sehen, weil auch bei ihnen sich im Dachraume während des Tages sonst starke Erwärmung der Luft einstellen würde. Ausserdem wäre auch notwendig, sorgfältig darauf zu achten, dass das Dach tief genug herabreichen würde, um die Denkmäler vollständig vor den Sonnenstrahlen zu schützen, weil sonst an den zeitweise exponierten Stellen die Abblätterung wieder einsetzen würde, die, wie der Augenschein zeigt, so oft an freistehenden Monolithen erfolgt, vor allem, wenn diese aus Sandsteinen bestehen.

Nachdem ich die herrlichen Monumente von Quiriguá 1890 noch in bestem Erhaltungszustand im Schutz des üppigen Urwalds, überdacht von den mächtigen Blättern ringsum stehender Corozopalmen in hinreissender landschaftlicher Schönheit gesehen, erschienen mir dieselben Ruinen 1928 ausserordentlich stark zerstört, und wenn durch die inzwischen eingerichtete Dauerabholzung auch die Übersichtlichkeit der alten Kulturstätte ungemein gewonnen hat, so hat doch dagegen die Abblätterung der Hieroglyphen und Figuren in so bedrohlichem Masse zugenommen, dass mir schien, dass die anderthalb Jahrzehnte der Dauerabholzung den Bildwerken mehr geschadet haben, also die vorausgegangenen vier Jahrhunderte im Schutz des Waldes. Infolgedessen glaube ich, dass in diesem und so manchem ähnlich gelagerten Falle das Wichtigste für die Weitererhaltung der wertwollen Altertümer darin bestände, *den Wald wieder in der ursprünglichen Beschaffenheit herzustellen und damit eine ganze Reihe schädigender Faktoren wieder auszuschalten.* Freilich wird man bei dem Versuch der zweckentsprechenden Wiederaufforstung, die auch die Einschaltung der landschaftlich so ausserordentlich wirkungsvollen Corozopalmen vorsehen müsste, die Erfahrung machen, dass trotz des gleichgebliebenen Klimacharakters das Nachwachsen des Waldes nicht mehr ganz von selbst erfolgen würde, sondern durch künstliche Mittel erst zu erzwingen wäre, denn wenn der ehemalige Urwaldboden einmal eine längere Reihe von Jahren der Sonne ausgesetzt gewesen ist, so haben sich damit auch seine Eigenschaften ungünstig verändert: er ist ausgetrocknet, die Humusbildung ist verringert, die Bakterienbestockung hat nachgelassen. Aber es ist kein Zweifel, dass mit geduldigen und zweckdienlichen Massnahmen das gewünschte Ziel doch wieder zu erreichen sein wird.

Wenn man die bereits stark mitgenommenen Bildwerke so mancher Ruinen sieht und sich vorstellt, dass sie noch vor wenigen Jahrzehnten einen fast tadellosen Zustand aufwiesen, so muss man sich fragen, ob es nicht besser gewesen wäre, die Altertümer in Museen aufzustellen und lediglich Abgüsse derselben in widerständigem Material am Ort ihres ursprünglichen Vorkommens zurückzulassen oder wenigstens die empfindlichsten Objekte unter Dach und Fach zu bringen, was ja (nach griechischem Vorbild—Olympia!) unmittelbar neben der Ruinenstätte geschehen könnte. Dass das Heimatland der Originale auch das erste Anrecht an diese hat, scheint mir unbestreitbar. Wenn die Denkmäler aber einmal von ihrem ursprünglichen Standort entfernt worden sind, so können sie auch sehr wohl in fernere Museen verbracht werden, wo sie dem eingehenden Studium leichter unterzogen werden können. *Vor allem muss aber in den Museen, sei es des Heimatlandes, sei es des Auslandes, alle Sicherheit für endgültige Erhaltung geboten werden!*

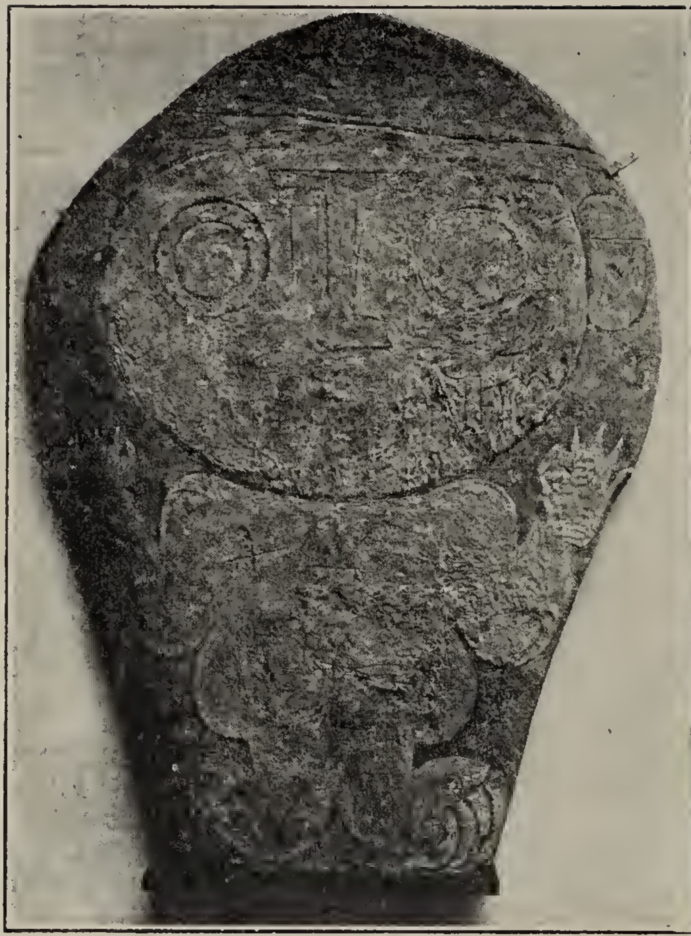
In den verschiedensten Ländern, in denen altindianische Denkmäler vorkommen, findet man die Sitte verbreitet, dass Landbesitzer die auf ihrem Gebiet gefundenen Monumente und kleineren Kunstgegenstände vor ihrem Wohnhaus oder in ihren Hofräumen aufstellen und Jahrzehnte lang an diesen allen Unbilden der Witterung ausgesetzten Orten belassen. Es ist sicher, dass alle diese Altertümer im Laufe der Zeit unweigerlich dem Verderben ausgesetzt sind. Wenn ich mir nur vorstelle, wie sehr die im Hof von Pantaleón in Guatemala aufgestellt gewesenen und noch dort stehenden Altertümer in der Zeit zwischen meinem ersten und meinem zweiten Besuch (1902 und 1924) gelitten haben, so scheint es mir, dass es keine vierzig Jahre mehr dauern kann, bis diese Altertümer den grössten Teil ihres Wertes als Zeugen des indianischen Kunstvermögens und Geschmacks eingebüsst haben werden und dasselbe gilt von den gewaltigen Steinbildern von El Baul, wenn sie nicht in der oben angedeuteten Weise durch Schutzdächer gegen die Besonnung und den Regen beschützt werden.

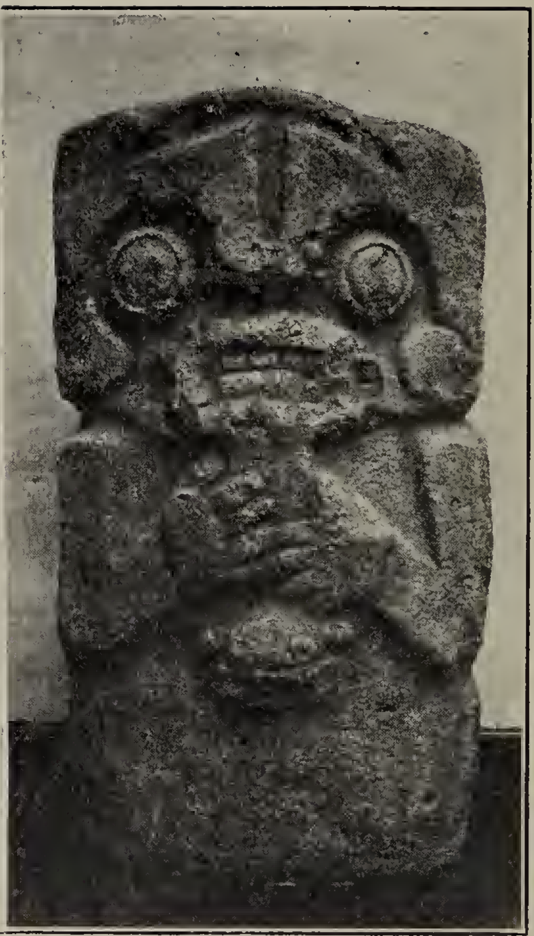
Zuweilen beobachtet man auch in den verschiedensten ibero-amerikanischen Ländern, dass Stelen, oder andere Altertümer an der Aussenwand von staatlichen oder privaten Gebäuden eingemauert sind. Es ist zweifellos die Absicht der Besitzer, diese Altertümer auch der Allgemeinheit auf diese Weise zugänglich zu machen, lobenswert, aber der Erfolg des Verfahrens wird sicherlich sein, dass in einer mehr oder weniger eng bemessenen Zeit die betreffenden Kulturdenkmäler bis zur Unkenntlichkeit und daher Wertlosigkeit verwittert sein werden, wenigstens in dauerfeuchten oder periodisch feuchten Gegenden, während in sehr trockenen Landschaften (z.B. dem bolivianischen Hochland), natürlich die Widerstandskraft weit grösser ist, soweit nicht heftige Winde durch Sandgebläse Zerstörungen anrichten, wie das in manchen amerikanischen Gegenden denkbar ist.

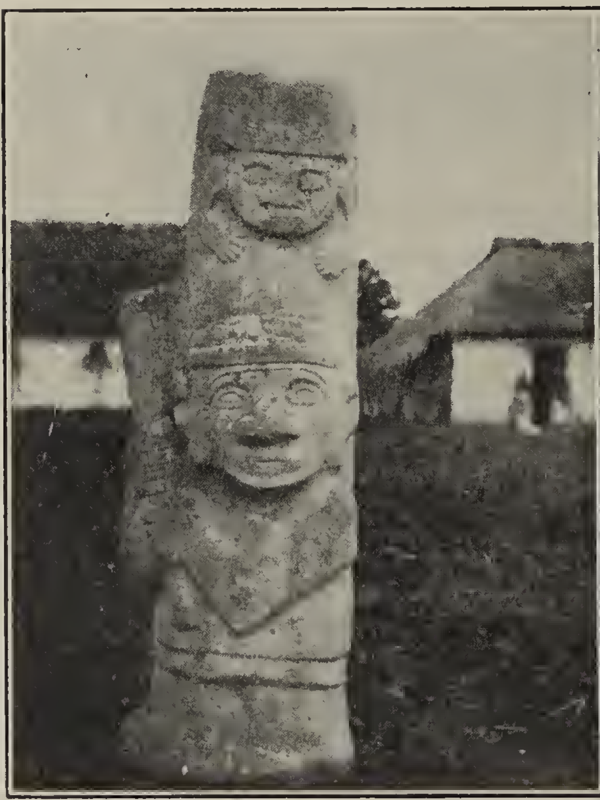
Angesichts der erwähnten Misstände auf dem Gebiete der Denkmalserhaltung wäre es angebracht, *dass in allen Ländern, wo altindianische Altertümer vorkommen, seitens der Behörden und privater Interessenten die Beteiligten darüber aufgeklärt würden, dass auf diese Weise die wertvollen Stücke im Laufe der Zeit sicherem Verderben entgegengehen* und dass es daher angebracht wäre, die Stücke den staatlichen Museen als Geschenk oder Leihgabe zur Verfügung zu stellen oder zum mindesten dieselben in geschützten trockenen Innenräumen der Wohnhäuser aufzubewahren. Ja, es wäre wünschenswert, dass die Regierungen sach- und fachkundige *Inspektoren der Altertümer* aufstellten, die in bestimmten Zwischenräumen das Land bereisten, um auf diese Dinge aufmerksam zu machen und nötigenfalls einen Druck auszuüben.

Die Regierungen der Länder, in deren Grenzen die indianische Kultur ehedem einen Hochstand erlangt hatte, haben zweifellos die moralische Verpflichtung, dafür zu sorgen, dass die Reste einer ruhmvollen Vergangenheit den späteren Geschlechtern unverkürzt erhalten bleiben, und dafür ist notwendig, die erhaltbaren Ruinen und Einzelkunstdenkmäler möglichst an Ort und Stelle zu belassen und vor weiterer Zerstörung mit allen Mitteln zu schützen. Wo aber an Ort und Stelle die Erhaltung unmöglich ist, da müssten die wertvollen Denkmäler in Museen aufbewahrt werden, die man entweder unmittelbar neben den Ruinenstätten errichten müsste oder die auch wohl in der heimatlichen Hauptstadt oder im Ausland sein könnten. Jedenfalls müsste aber auch auch für die Erhaltung der in Privatbesitz befindlicher Altertümer zweckentsprechende Sorge getragen werden, sodass das Studium der alten Kultur der Ureinwohner Amerikas auch in den fernsten Zeiten noch betrieben werden kann.

WÜRZBURG, DEUTSCHLAND.


1


2


3

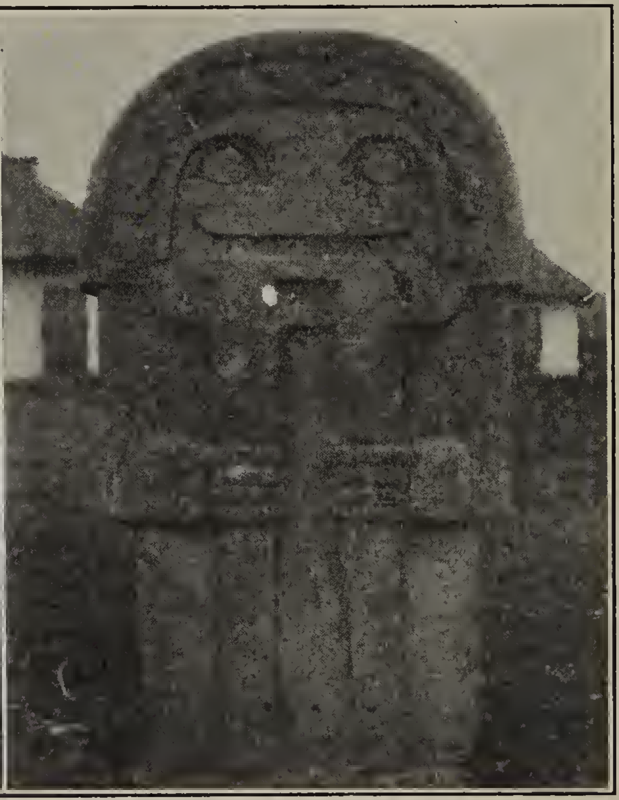

4

FIG. 1—HOCKENDER JAGUAR
FIG. 2—GESTALT, DIE EIN TIER AUS DEM MUNDE ZIEHT
FIG. 3—KRIEGER MIT KEULE. ÜBER SEINEM KOPF DAS ‘‘ZWEITE ICH’’
FIG. 4—SONNENGOTT MIT ZWEI SZEPTERN

DIE AUSSTRAHLUNG DER SAN AGUSTIN-KULTUR (KOLUMBIEN) IN AMERIKA

Von K. Th. Preuss

IN dem Werke, das Anfang 1929 über meine Studien und Ausgrabungen bei San Agustin nahe den Quellen des Magdalena in Kolumbien erscheinen wird,[1] bildet natürlich die genaue Darstellung der Funde die Hauptsache. Indessen enthält es auch eine Zusammenfassung des ethnologischen Bestandes der Funde und versucht, den Spuren nachzugehen, die sich an anderen Stellen in Amerika von dieser eigenartigen Kultur zu zeigen scheinen. Da geschichtliche Daten über die Altertümer von San Agustin nicht vorhanden sind, die Kultur vielmehr bereits bei dem ersten Auftreten der Spanier in diesen Gegenden 1538 als prähistorisch aufzufassen ist, so dürften die Beziehungen zu andern amerikanischen Kulturen besonderes Interesse erwecken, und ich möchte die Gelegenheit benutzen, durch einige Lichtbilder auf sie aufmerksam zu machen.

Der Kultur eigentümlich und sonst nicht in Amerika vertreten scheinen die rechteckigen Tempel oder Götterschreine zu sein, die aus grossen unbearbeiteten Steinplatten errichtet sind und eine ebensolche Bedachung tragen. Särge aus einem Monolithen bestehend, die häufig einen zuweilen skulptierten Deckel aus Stein haben, scheinen dagegen in der Gegend von Chavin im nördlichen Peru[2] und vielleicht auch im Bezirk San Andres Tuxtla im südlichen Teil des Staates Veracruz vorzukommen.

Da die Kultur von San Agustin sich besonders durch zwei-und mehr Meter grosse Steinfiguren und Reliefs auszeichnet, so bieten diese die am weitesten reichenden Vergleiche dar. So erinnert das Relief eines auf den Hinterbeinen sitzenden Jaguars mit menschlichem Kopf an die sogenannte Erdkröte der alten Mexikaner (Pl. I, Fig. 1). Eine Figur mit einem bis auf die Brust gebeugtem Kopf, also in einer Haltung, wie sie sonst nirgends vorkommt, findet sich ganz ebenso am See von Nicaragua.

Nach einem Ausdruck, der in den von mir aufgenommenen Uitoto-Texten[3] mehrfach vorkommt, sobald sich bei Schicksalswendungen ein Wesen von einer mythischen Gestalt loslösst, möchte ich eine Reihe von Figuren aus San Agustin als mit einem "anderen Ich" versehen bezeichnen und ihr Vorkommen in verschiedenen ähnlichen Formen im Norden bis nach Mexiko, ferner zu den Maya und in die Gegend des Nicaragua-Sees, im Süden bis Chavin und Nasca und im Osten bis etwa zur Mündung des Rio Trombetas in den Amazonas verfolgen. Es handelt sich dabei in Mexiko und bei den Maya um die Nahualli-Verkleidung, wo gewöhnlich der Kopf eines Gottes aus dem geöffneten Rachen eines Tieres, eines Nahualli herausschaut. Am Nicaragua-See haben wir daneben die Verschiebung, dass das Tier auf dem Kopf und Rücken der Hauptperson ruht, was dann auch am Amazonas der Fall ist. Die San Agustin-Form besteht meist darin, dass über der Hauptfigur ein zweiter mehr oder weniger ähnlicher Kopf angebracht ist, von dem meist ein schlangenartiger Doppelleib die Rückseite der Figur herabreicht, der schliesslich in zwei Tierköpfe endigt (Pl. I, Fig. 3). Von einer Beschreibung des ebenfalls meines Erachtens hierher gehörenden Monoliths Raimondi von Chavin will ich in dieser kurzen Mitteilung absehen und erwähne nur noch die Form gewisser Malereien von Nasca. Diese weichen von den entsprechenden grossen, plastischen Darstellungen von San Agustin dadurch ab, dass derselbe Kopf zugleich für die menschliche Figur, wie für den Schlangenleib mit schliessendem Tierkopf gilt.

---

[1] *Monumentale vorgeschichtliche Kunst, Ausgrabungen im Quellgebiet des Magdalena in Kolumbien 1913–1914,* Göttingen, 1929.

[2] Genauer in der Provinz Tomabamba, Tello, Julio C., Wiracocha, *El Inca,* vol. 1, 1923, S. 311.

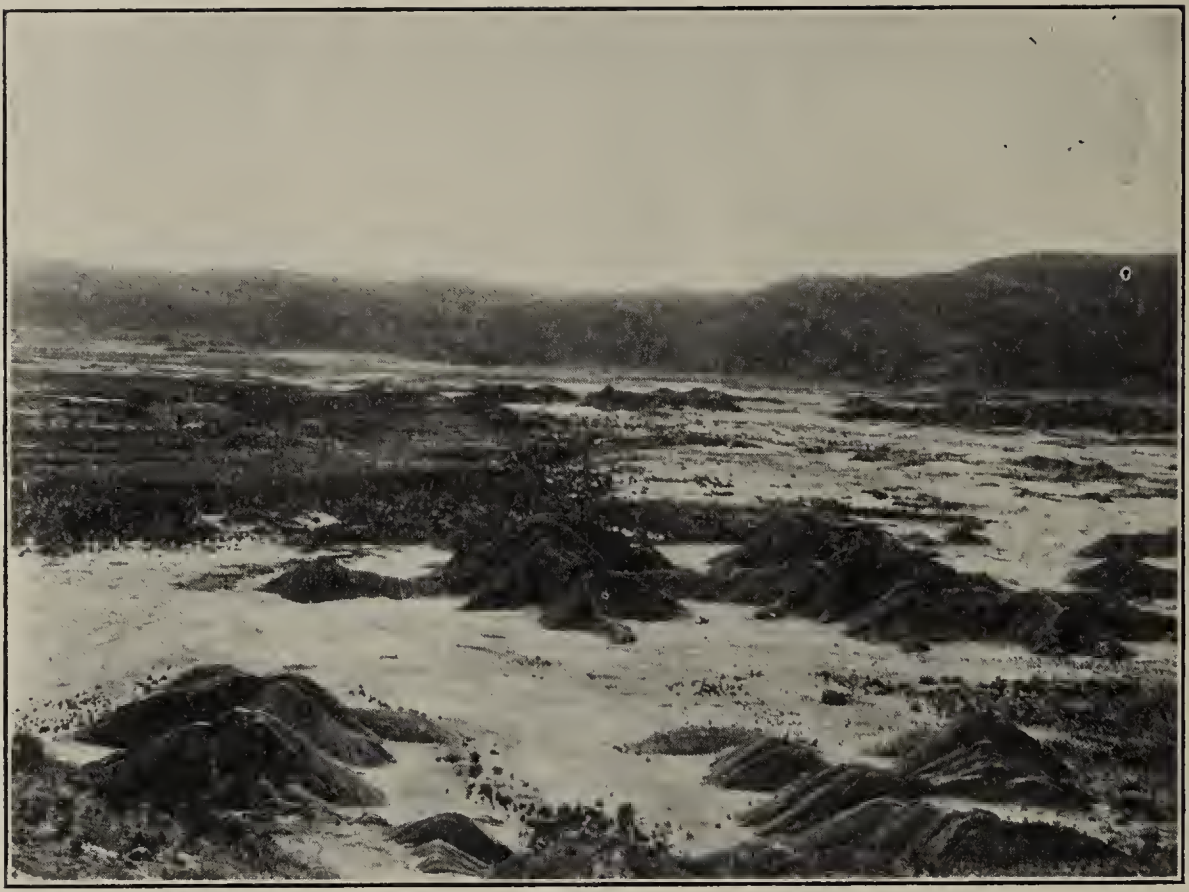
[3] Preuss, K. Th., *Religion und Mythologie der Uitoto,* Göttingen, 1921–1923, S. 46.

Die meisten Beziehungen der San Agustin-Kultur scheinen mit der von Chavin zu bestehen. Beweis dafür sind z. B. ausser den schon erwähnten Entsprechungen die Figuren, die in San Agustin einen Menschen oder ein Tier aus dem Munde ziehen (Pl. I, Fig. 2) was man auf einem Gefäss von Chavin ebenfalls beobachten kann. Ebenso ist ein "Sonnengott" von San Agustin, der in jeder Hand eine lange Keule trägt (Pl. I, Fig. 4), mit der Relieffigur auf dem schon erwähnten Stein Raimondi zu vergleichen. Bekanntlich gehört aber auch die Hauptrelieffigur auf dem sog. Sonnentor von Tiahuanaco in diese Betrachtung hinein, da auch hier die beiden keulenartigen Geräte nicht fehlen. Alle drei Figuren haben zudem die senkrechte Umrahmung des Kopfes, auf der sich unwillkürlich die Idee gründet, dass man es mit Sonnengottheiten zu tun hat.

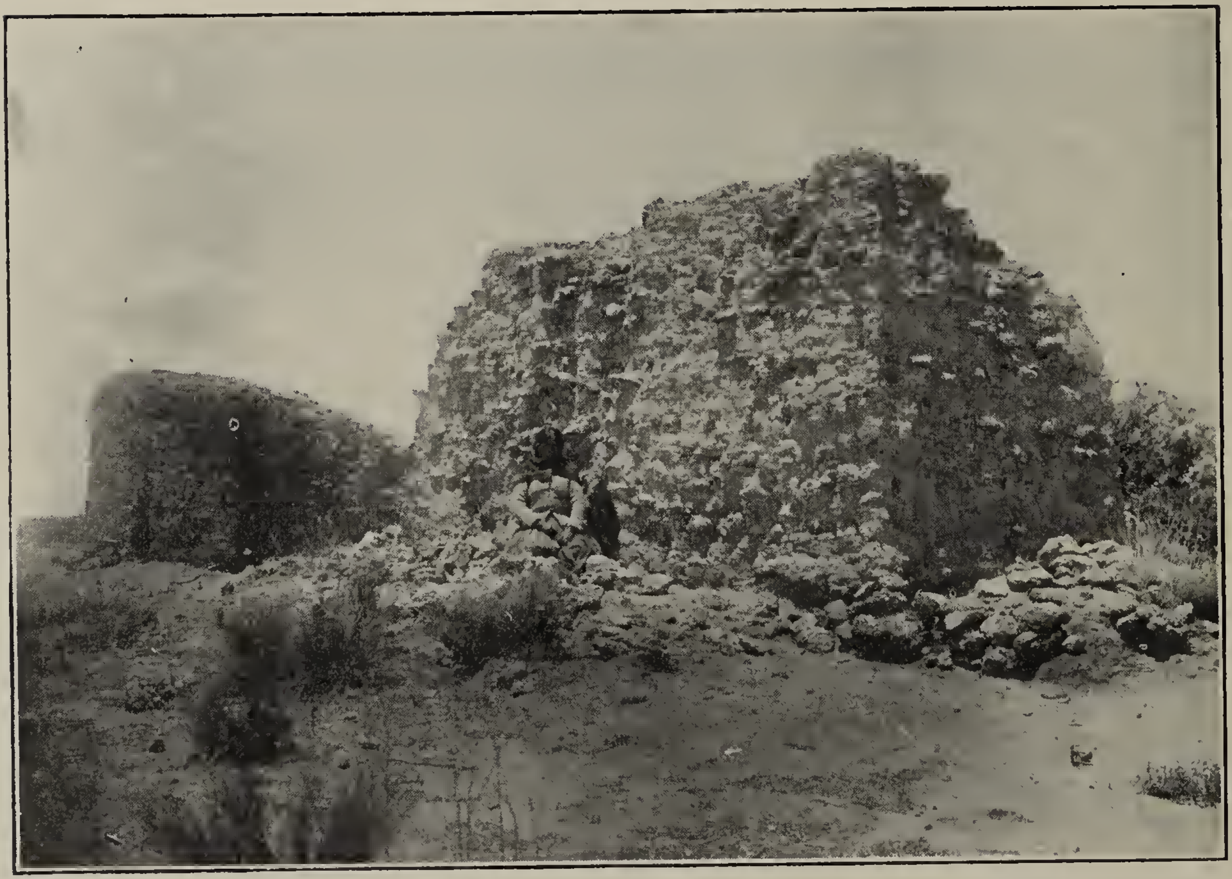
Als ein besonderes Merkmal der San Agustin-Kultur seien noch die hervorstehenden, nach oben und unten ragenden Eckzähne an zahlreichen, im übrigen meist menschengestaltigen Figuren hervorgehoben, die ebenfalls in der Chavin-Kultur, aber auch in der benachbarten Chimu-Kultur verkommen. Endlich erwähne ich einen dreistufigen Aufsatz auf dem Kopf verschiedener Figuren von San Agustin, der auch auf dem Kopf einer angeblich aus Cuzco stammenden Steinfigur im Museum für Völkerkunde in Berlin zu finden ist.

Aus diesen Vergleichen wird man entnehmen können, dass der archaische Charakter der Kultur von San Agustin für die Beurteilung und das Alter der amerikanischen Kulturen überhaupt von Bedeutung ist. In der Tat muss man dieser Kultur ein hohes Alter zuschreiben. Schon die Massenhaftigkeit der bis jetzt aufgefundenen Statuen, die sich durch meine Funde auf etwa 120 vermehrt haben, also auf fast das vierfache der durch Codazzis Arbeit bekannten, lässt vermuten, dass die Kultur eine Reihe von Jahrhunderten in Blüte stand, zumal der Charakter der Figuren in sich sehr verschieden ist und eine Entwicklung erkennen lässt. Auch fand sich in einem Falle ein Götterschrein über einem andern vor, dessen Gottheit also völlig in Vergessenheit geraten war. Die geduldige Weiterarbeit an dieser Stätte wird sicher noch viel mehr interessantes Material zu Tage fördern, namentlich in den Gebieten, die heute noch vom Urwald bedeckt sind und daher nur selten von einem Jäger begangen werden. Ist doch das mit Resten dieser Kultur bestandene Gebiet durch meine Forschungen allein auf das sechsfache von dem erweitert worden, was seiner Zeit Codazzi untersucht hat.

Museum für Volkerkunde,
Berlin.



a



b

a, UN TÍPICO PAISAJE DEL LECHO SECO DEL ANTÍGUO LAGO GLACIAL, EN LA REGIÓN DE CARANGAS (BOLIVIA); *b*, UNA VIVIENDA PREHISTÓRICA CONSTRUIDA DE TOBA CALCÁREA (PROCEDENTE DE ALGAS ''CHARACEAS''), SOBRE LA PLATAFORMA DE LA ISLA PANZA, EN EL POOPÓ, EN CUYAS FALDAS, A 52 METROS DE ALTURA, SE HALLA LA ANTÍGUA LÍNEA LACUSTRE DE ÉPOCA POSTGLACIAL, COMPUESTA DE LA CITADA TOBA CALCÁREA

LA REMOCION DEL CINGULO CLIMATERICO COMO FACTOR DEL DESPUEBLE DEL ALTIPLANO Y DECADENCIA DE SU ALTA CULTURA

Por Arthur Posnansky

Exordio

UNO de los hechos más extraños y dignos de estudio en Sudamerica es el salto ascensorio de los pueblos andinos a una altísima cultura, seguido de un decaimiento a un profundo abismo, con un fenómeno diasporratorio que al mismo tiempo despuebla la gran región interandina; un facto casi único en la morfología de los pueblos americanos.

Vemos en toda aquella amplia región, formidables restos procedentes de considerable y científicos trabajos agrícolas que, evidencian que esos territorios han alimentado una población densísima, la que tuvo que luchar vehemente para hacer producir en trechos relativamente reducidos, grandes cantidades de recursos alimenticios, aprovechando hasta terrenos que hoy se hallan completamente incultos, inaccessibles e improductivos en las altas y agrestes cumbres de las cordilleras. Lo único que podría motivar un tal cataclys antropológico, como el arriba indicado, es un cambio del cíngulo climatérico (*Verschiebung des Klimagürtels*).

Procuraré demostrar en seguida cuales son los motivos del desmejoramiento del clima y consiguiente despueble de la región interandina.

Premisas

Al final de la última época glacial, se extendió en la sección Noroeste de Sudamerica un enorme lago-mar que principiaba en el Departamento de Puno del actual Perú, explayándose sobre todo lo que ahora representa el Altiplano de Bolivia (Lám. Ia) con sus grandes lagos, pasando hacia el Sur a la parte que ocupa en la actualidad, de un lado, Pampa Aullagas, Coipasa, Salares de Uyuni, hasta el pié de la cordillera de Chocaya, y del otro lado, hasta más al Oeste del salar de Ascotán, teniendo como contrafuertes por el Oeste las cordilleras de Sililica y de Huatacondo. Este lago se comunicaba por medio de una garganta, con otra sección que se explayaba entonces en la actual Puna de Atacama. Toda esta enorme aguada *tuvo un solo nivel* al final de la última época glacial.

Aquellos que no han investigado en el terreno esta enorme extensión de territorios, con sus aún formidables lagunas-, las que en su mayoría se han desecado y siguen desecándose en la actualidad-, preguntarán, ¿como es posible que existan en el presente tan grandes diferencias de nivel, que llegan entre su máxima y mínima a tener una diferencia de alrededor de doscientos metros?, añadiendo también ¿cómo es posible que en un tiempo, relativamente corto cual es el que nos separa de la última época glacial, o sea de 13 a 15 mil años, se haya perdido una tan formidable masa de agua, ya que no se puede suponer que haya desaparecido ella por evaporación o inmersión?

Mucho se ha conjeturado, referente a los enigmas que presenta la geología del Altiplano andino, desde confortables oficinas, desde magníficos escritorios de roble cubiertos por cerros de *fuentes de consulta* por personas que conocen el Continente Sudamericano únicamente por viajes de su dedo sobre la respectiva faja de un Atlas, por muy deficientes mapas geográficos y por mucho mas deficientes descripciones geológicas. Otros, en muy escaso número, han realizado viajes geológicos a vuelo de pájaro y todos ellos opinan generalmente que después de la última época glacial, hubieron en aquellos sitios *lagos de diferentes niveles.* Esta opinión no tiene absolutamente ningún fundamento y quedó destruída por completo con las comprobaciones hechas en mi última expedición, navegando el Desaguadero del Titicaca al Poopó.

Esta última exploración, que duró 34 dias y que la hice en la época más seca para estudiar bien la morfología y fisiografía del citado territorio, tuvo como base una cantidad de viajes anteriores que verifiqué durante 30 años en todas direcciones del Continente Sudamericano, y en ella quedó definitivamente resuelto el enigma de los grandes lagos del Altiplano y el problema de las grandes culturas en sus orillas, cuanto también el decaimiento abrupto de ellas. Para ello era necesario estudiar aquellos extensos territorios, donde se hallaban y aún se hallan en parte, aquellas formidables acumulaciones de agua. Este estudio lo hice no sólo desde el punto de vista morfológica, fisiográfico y geológico, sino también del de su aspecto arqueológico, o sea de las manifestaciones de la vida del hombre prehistórico, el que como testigo asistió a las distintas evoluciones de este Continente, *sin duda aún antes de la época del pleistóceno.*

Las exploraciones y resultados obtenidos en mi última expedición del Titicaca al Poopó, demostraron con extrema evidencia, que el Continente Sudamericano se habia inclinado hacia el Sur, de una manera secular en una época relativamente reciente, cambiandose *eo ipso* los cíngulos climatéricos, lo que causó las migraciones de los pueblos andinos, ascensión y decadencia de sus culturas, toda una *premisa* geológica antigua mia, la que fué comprobada y revisada definitivamente en el terreno, por los factos que principiaré a demostrar en seguida.

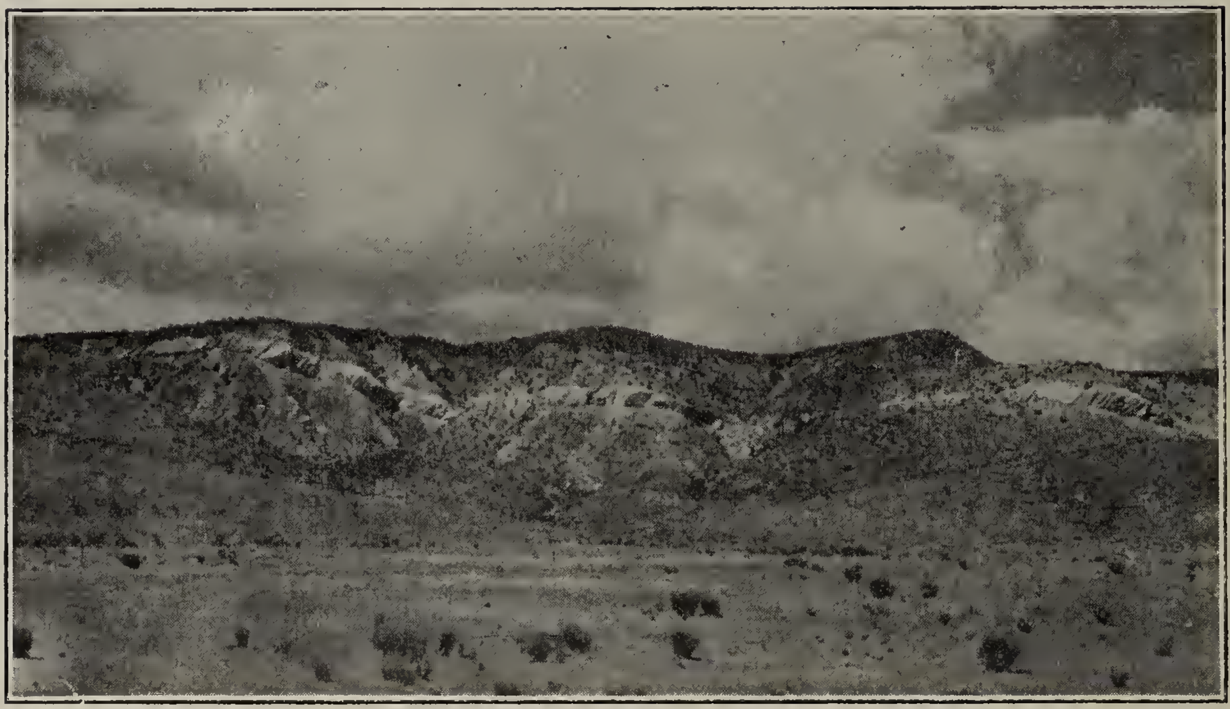
Factos

Hallamos, casi como si fuera tirada con un lineal, una bien marcada linea de un antiguo litoral (Fig. 1 y Lám. Ib) que principia desde las serranias del Departamento de Puno en el Perú y que pasa al pié de los muelles de la prehistórica ciudad de Tihuanacu, en Bolivia. De allí se extiende esta *Strandlinie* en todas las direcciones y sigue hacia el Sur dejándose notar, con mayor grandiosidad, en las serranias que sobresalen en las grandes pampas salinas, que llegan hasta Ascotán. Esta línea de aquel antiguo litoral existe imborrable en una enorme extensión, la que cualquiera, aunque sea el mas profano, puede observar a simple vista, porque se manifiesta con una claridad única, tanto por los abanicos de eyección de los rios que cargaban sus detritus y arrastres al antiguo lago glacial, en unas partes, en otras, por verdaderos "lavados" de las olas que redondearon las rocas, y, por último, por sedimentos calcáreos donde crecían en el antíguo borde algas calcáreas. Hemos tenido la suerte de haber seguido en ese viaje dicha línea, estudiando, midiendo y fotografiándola en una extensión mayor de cuatrocientos kilómetros, siendo ella la prueba más elocuente de las

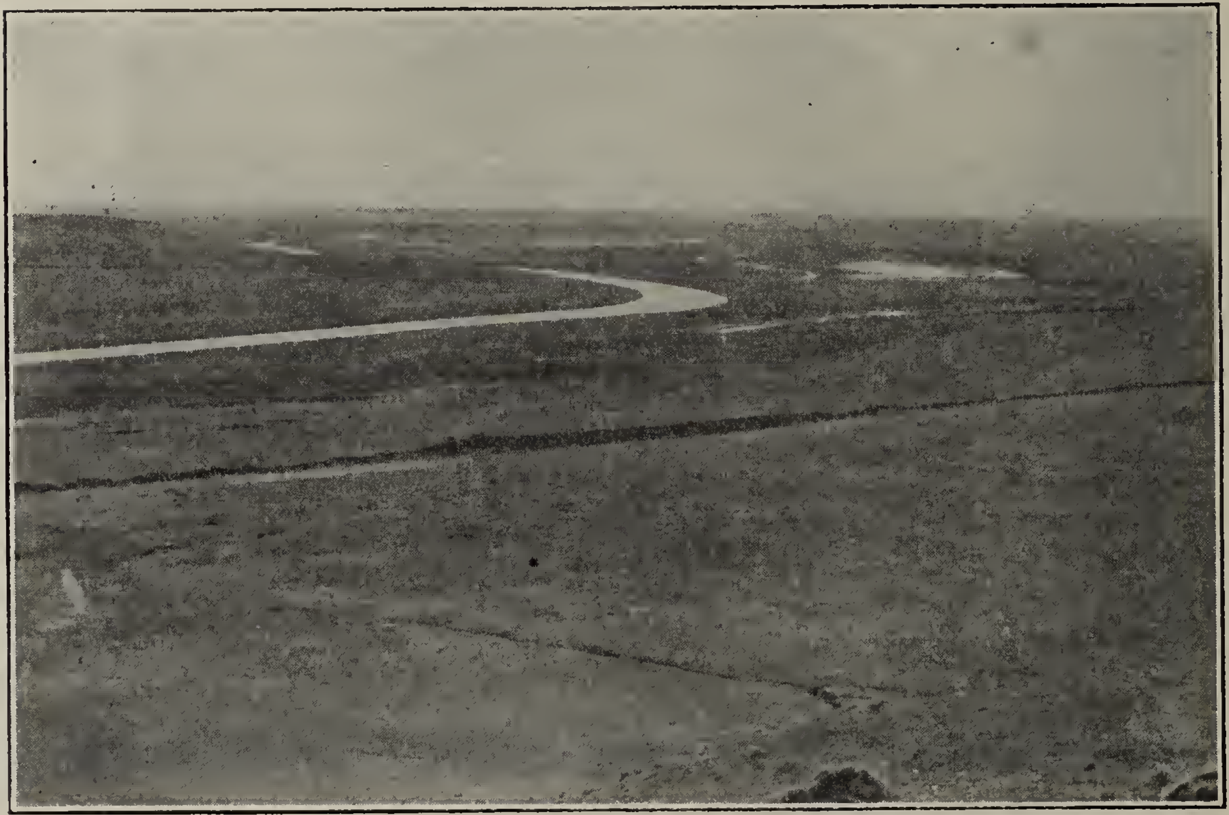
a

b

a, PRINCIPIO DEL RÍO DESAGUADERO, DONDE AÚN TIENE EL ASPECTO LACUSTRE Y EN CUYAS MÁRGENES VIVE EN LA ACTUALIDAD EL RESTO DE LA PREHISTÓRICA TRIBU DE LOS "URUS." DE ALLÍ ADELANTE, EL DESAGUARDERO CAVÓ SU CAUCE EN EL GRAN LECHO DEL ANTÍGUO LAGO POST-GLACIAL "TIHUANACU," PERO OSTENTANDO SIEMPRE EL ASPECTO DE UN "RÍO INCONCLUSO"; *b,* ESTRATO DE TOBA VOLCÁNICA, EN MEDIO DE SEDIMENTOS GLACIALES, LA CUAL VISTA DE LEJOS, FUÉ TOMADA POR ALGUNOS EXPLORADORES COMO SEDIMENTOS ANTÍGUOS LACUSTRES



a



b

a, ESTRATO DE TOBA VOLCÁNICA EN KANTUMA EN LA MÁRGEN IZQUIERDA DEL DESAGUADERO. AL PIÉ SE VÉ LA TÍPICA FORMACIÓN Y VEGETACIÓN DE LOS TERRENOS DESOCUPADOS FOR EL ANTÍGUO LAGO GLACIAL; *b,* EL DESAGUADERO ATRAVEZANDO LA ENORME CUENCA INTERANDINA EN LA CUAL SE EXTENDIÓ EL LAGO-MAR "TIHUANACU." (SITIO ENTRE HANKO-HAQUE Y NAZACARA) conclusiones a que he llegado, y las cuales las expondré más abajo. Que el lago Titicaca, o mejor dicho el lago-mar Tihuanacu llegó en época prehistórica hasta los bordes de aquella metrópoli del hombre americano, ya nadie pone en duda hoy día, por las fehacientes pruebas que representan las obras del puerto, los muelles, las contrucciones hidráulicas[1] y todo lo concerniente al aprovechamiento del lago se ha encontrado en ella, en descubrimientos mios durante las dos décadas últimas y que aún hoy puede estudiar cualquier investigador.

Si el lago llegaba entonces hasta los muelles de Tihuanacu, el nivel del actual Titicaca (cota del año 1926), era superior en veintisiete metros al de ahora. Y si juzgáramos que el Continente, desde la época de Tihuanacu, no haya tenido movimiento inclinatorio y el Altiplano ascensión alguna, ¿ que habría sucedido entonces? En este caso, las aguas hubieran fluído sobre todo lo que representa ahora el Altiplano y la ciudad de Oruro, que en la actualidad está a 156 metros más abajo que los muelles de Tihuanacu o mejor dicho, del nivel de las aguas que llegaban a los citados muelles, hubieran quedado cubiertos por una masa de agua de aquella altura; además, como no habían barreras capaces de retener esas aguas hacia el Sur, y hacia la costa del Pacífico, ellas se habrían extendido en esas direcciones, considerando siempre que el Continente no se hubiera inclinado, cubriendo todos los territorios hasta la Argentina, en vista de que no existe, ni existía en ninguna parte una *valla no interrumpida* que sostuviera cual un dique de exclusa, aquella enorme mas a de agua. En este caso habría que suponer que el nivel del Oceano hubiera tenido una altura de varios miles de metros superior que hoy dia y que las aguas se hubieran comunicado con el Oceano. Para comprender mejor lo que acabo de relatar véase el cuadro adjunto de las cotas altimétricas actuales tomadas en ese viaje. (Anexo No. 1.)

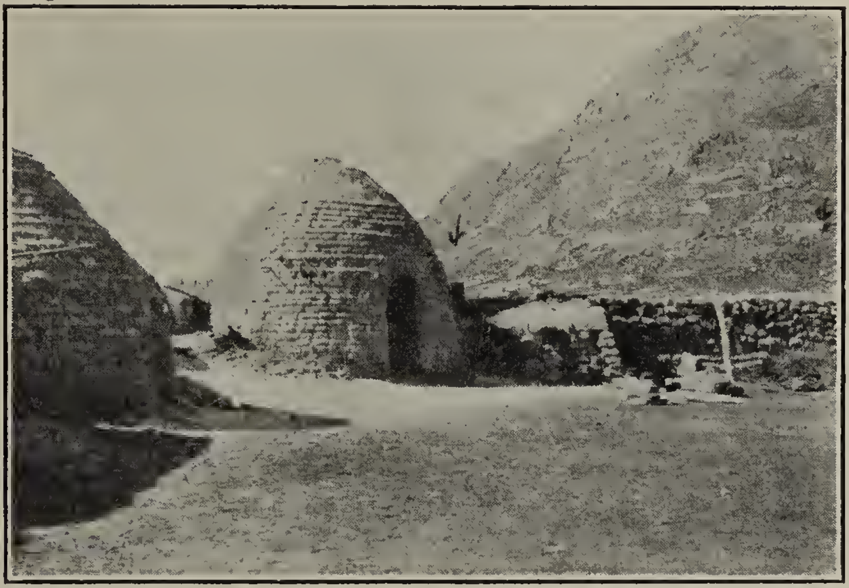


FIG. 1—EN EL CERRO DE KEILLIA, A 52 METROS DE ALTURA SOBRE EL ACTUAL LAGO DE POOPÓ, SE NOTA COMO TIRADA CON UN LINEAL, LA ANTÍGUA LÍNEA LACUSTRE DEL LAGO POST-GLACIAL, COMPUESTA DE TOBA CALCÁREA, PROCEDENTE DE ALGAS "CHARACEAS"

Pero ya que está comprobado de que no existía el tal lago o mar en época geológica reciente, o sea masas de agua que en la época de Tihuanacu invadieron desde el Altiplano los territorios que corresponden hoy a la Argentina, debiendo en aquel supuesto caso, como dije, el Oceano haber tenido un nivel más alto que el actual, o haber formado el citado lago parte de él, se nos presenta de pronto la premisa de que efectivamente existía un lago al final de la última época glacial entre los límites ya indicados y que el continente se inclino posteriormente hacia el sur, como se evidenciará mas adelante. Por supuesto, yo no quisiera tocar por el momento la genial idea de los dos lagos Ballivián y Minchin, simple suposición de Isaiah Bowman y Allan G. Ogilvie,[2] sin pruebas como son levantamiento de perfiles o nivelación alguna, la que quedó totalmente destruída con los estudiòs practicados en mi último viaje del Titicaca al Poopó, en el cual comprobé con toda evidencia que no existía ni ha existido nunca una valla o dique capaz de separar los dos *supuesto lagos*, cuya separación era, el por Bowman llamado Fairweather Gap. (Lám. II, III, Fig. 2.)

---

[1] Una de las pruebas mas contundentes es el "vertedero" de la cloaca maxima que se halla en la actualidad, algunos metros bajo del nivel del suelo de Tihuanacu.

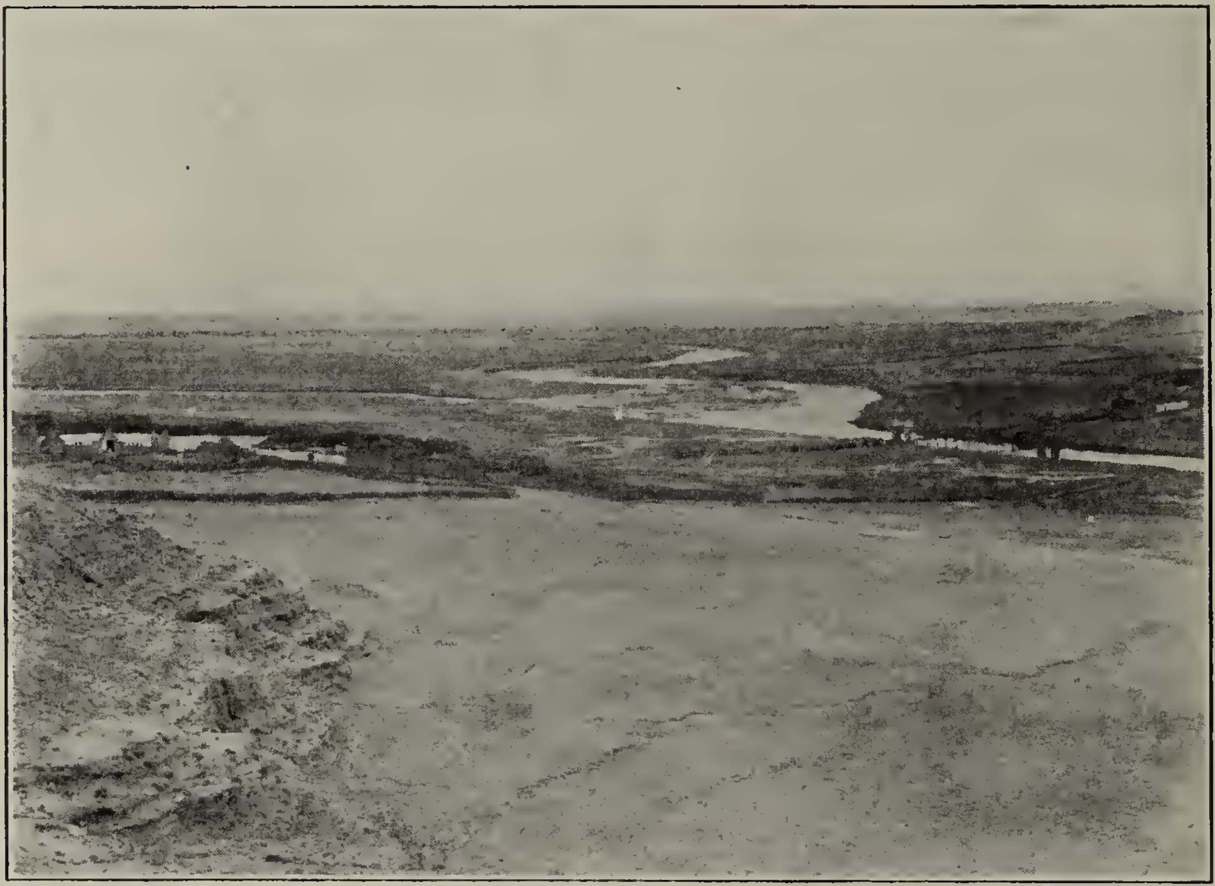


Fig. 2—El rio Desaguadero atravezando cerca de Nazacara el lecho desecado del antíguo lago, Tihuanacu

Fue que hubo una Inclinacion Secular del Continente

No hay que ir muy lejos ni practicar expediciones de grandes sacrificios como aquella que acabo de hacer desde el Titicaca al Poopó, pasando desiertos—con trabajos, puede decirse, casi sobrehumanos, para observar y comprobar la inclinación reciente—geológicamente hablando—del Continente, que motivó el cambio climatérico y consiguiente despueble del Altiplano de Bolivia en época prehistórica. Con toda comodidad, cualquier investigador podrá hacer el fácil viaje hasta la ciudad de Oruro, en Bolivia, pudiendo recorrer en una gran parte el cerro de aquella población hasta en automóvil y entonces notar que a 52 metros y medio sobre el nivel des Desaguadero actual, existe en la falda del cerro una *enorme línea lacustre de toba calcárea,* formada otrora por algas calcareas del tipo de las characeas. Esta línea lacustre se puede observar de un lado, hasta Tihuanacu, y del otro lado, hacia el Sur, en todas las serranías más arriba indicadas.

---

[2] Ogilvie, Alan G., Geography of the Central Andes, *American Geographical Society*, New York, 1922.

Por supuesto, ella no está dibujada en todo el trayecto de una manera gráficamente uniforme con resíduos de toba calcárea como en los cerros del Departamento de Oruro y Sur del Departamento de La Paz, porque en aquellos tiempos, como ahora mismo, no hubo en todos los sitios del gran lago praderas de Characeas. Pero ella es visible y marcada por líneas ablutorias en tal forma que, el más profano puede observar y determinarla en todos los faldíos del trayecto. En lo que toca al Sur de Oruro, sigue extendiéndose ésta línea como tirada con líneal, hasta los límites mencionados. Pero como ella tiene desde Tihuanacu al Poopó, una diferencia de nivel de ciento setenta y seis metros, y como no existen ni pueden haber existido por motivos físicos ''lagos inclinados,'' lo único que hay que presumir es que hubo una *inclinación secular del Continente;* fenómeno geológico cuyo motivo y orígen luego comprobaré.

Pero antes de seguir con este estudio expositivo, deseo hacer una advertencia a los investigadores y también a los críticos, que no han de faltar, e indicar medios para comprobar facilmente *la inclinación actual de la antigua línea lacustre,* cuya nueva verificación por una comisión investigadora, con gastos de poca importancia, es factible en pocos dias. Recomendaría ademas a aquellos, que este trabajo no se haga como nosotros lo hemos hecho, con hipsómetro, barómetros compensados y sus respectivas tablas de temperaturas, sino que sea ejecutado mediante un *nivelamiento de precisión,* que principaría desde un punto central, por ejemplo desde la citada línea lacustre del Cerro de Oruro y seguiría hasta los rieles de la estación ferrocarrilera de la misma ciudad; y después, continuando sobre los rieles hacia abajo, hasta Sebaruyo, corriendo el nivel desde allí, por tierra, hasta la línea lacustre sobre las faldas del Cerro de Quillacas. Después se debería volver sobre los rieles para nivelar hasta el llamado Portezuelo de Quehua, dejando allí nuevamente los rieles, para nivelar sobre tierra hasta el pié del Cerro Tunapa, donde se encontraría otra vez la línea lacustre de tobas calcáreas. Luego se debe retornar de nuevo a Oruro y principiar a nivelar sobre los rieles hasta llegar a Eucaliptos y de allí, por tierra, hasta las líneas lacustres que son visibles sobre el cerro de la Joya, Sellota y Caracollo. Es natural que este nivelamiento de precisión hubiera que practicarse simultáneamente, siquiera por tres topógrafos distintos, para tomar un promedio de los ''errores personales.'' La ejecución de este nivelamiento, sería no solo necesaria para fiscalizar nuestra labor, sino, para comprobar también y determinar con exactitud matemática la *inclinación media,* aún existente, en esa parte del Continente Sudamericano, la cual motivó otrora, o sea al final de última época glacial, un derrame secular de la gran masa de agua continental, y la que de ''groso modo'' determinamos en nuestra travesía del Titicaca al Poopó, y que es de 176 metros, tomando como base el Titicaca con 3.812 metros de altura sobre el nivel del mar, que en la actualidad tiene (este nivel ha subido durante los últimos años, pero ahora está bajando nuevamente).

DATOS GEOLOGICOS ILUSTRATIVOS

ANEXO Nº. 1

Altura de toba volcánica entre Yanamuyo y el Km. 45, tomando como base relativa el Alto de La Paz con 4090 m.	3,970 m. (Altímetro de Goulier)
Altura sobre el nivel del mar de mi punto triangular en Tihuanacu Estación del F. C.	3,846.55 m.
Altura del sedimento blanco en Tihuanacu	3,845 m.
Altura de los muelles en Tihuanacu	3,840 m.
Altura de las aguas en el muelle de Tihuanacu	3,839 m.
Nov. 20, 1926 (Epoca más seca), Altura Titicaca (Guaqui)	3,812 m.
Altura Titicaca al principio del siglo XX	3,810.82 m.
Terraza alta sobre la cual se halla la Iglesia de Hanko-haque (Pueblo de los Urus)	3,823 m.
Altura Terraza en Hanko-haque que contiene el sedimento blanco	7 m. sobre el nivel Desaguadero. (Goulier)
Planicie superior de Nazacara (23 m. sobre el espejo del Desaguadero)	3,830 m.
Altura sedimento blanco de Nazacara (parte superior) sobre el nivel del Desaguadero	22 m.
Grueso del sedimento blanco de Nazacara	0.73 m.
Grueso del limo rojo entre sedimento blanco y toba en Nazacara	4.72 m.
Altura toba volcánica sobre el espejo del Desaguadero en Nazacara	23 m.
Altura toba volcánica en Nazacara (parte superior)	3,823.55 m.
Espejo del Desaguadero en Nazacara	3,807 m.
Espejo del Desaguadero en el así llamado Fairweather Gap	3,782 m.
Terrazas altas del Fairweather Gap	3,833 m.
Espejo del Desaguadero en Concordia	3,777 m.
Terrazas de la Puna en Concordia	3,833 m.
Terraza antígua sobre la terraza de la Puna en Concordia (Descubierta por el lago glacial en época de Tihuanacu)	3,848 m.
Sedimento blanco de la Concordia	3,843 m.
Espejo del Desaguadero en Ulloma	3,770 m.
Sedimento de la Puna en Ulloma, en la cual se hallan los vertebrados extinguidos que reproducen las cerámicas de Tihuanacu	3,842 m.
Espejo del Desaguadero en San Juanillo	3,761 m.
Espejo del Desaguadero en Chilahuala	3,723 m.
Espejo del Desaguadero en Bella Vista (Puerto de Eucaliptos)	3,700 m.
Portachuelo de Sellota para la salida del canal a Oruro	3,680 m.
Altura de la Pampa de Oruro en la vecindad del cerro de Oruro	3,684 m.
Antíguo espejo del lago glacial en los cerros de Oruro	3,728 m.
Quimpara, lugar donde debe desembocar el canal de Oruro	3,676 m.
Espejo del lago Poopó, el 22 de Diciembre de 1926, como término medio de 5 observaciones	3,673 m.
Diferencia del espejo del Poopó al antíguo espejo del lago glacial, segun la línea que marca la toba calcárea procedente de algas calcáreas, visible en los barrancos (segun observaciones con hipsómetro, término medio)	52 m.
Id. id. término medio de nivelaciones	52.50 m.
Pampa de Oruro, está mas abajo del espejo del Titicaca en	128 m.
La línea del lago glacial en los cerros de Oruro está mas abajo del actual Titicaca en	84 m.
El espejo del Poopó está mas abajo del Titicaca en	139 m.
El espejo del Coipasa está a	3,667 m.
El espejo del Coipasa está mas abajo del Poopó en	6 m.
Largo del lago Poopó	80 Km.
Ancho del lago Poopó	45 Km.

CONCLUSIONES

La verdadera causa de la postrera época glacial, asi como la de las anteriores es hasta ahora dudosa, pero lo cierto es, que la última época glacial, segun la generalidad de los estudios y consiguientes conclusiones, ocurrió simultáneamente en ambos hemisferios, *excepto en las regiones ecuatoriales de bajo nivel.* La cronología de la época glacial en el Norte de Europa está exactamente estudiada y determinanda por los geniales indagaciones hechas por el Professor Gerard de Geer; habiendo investigado él en Suecia las estratificaciones de arcillas glaciales (Varven), que dieron la cifra de 6,900 años a. Ch. n., para el fin de la época glacial y de 12,600 años a. Ch. n., para el fin de la época daniglacial.[3]

Como la época glacial mas al Sur de Suecia, o sea por el lado de la Europa Central, tuvo lugar hace alrededor de 13 a 15,000 años, por analogía se juzga que, en las mismas latitudes, en los mismos niveles sobre el mar—en Norte y Sur América—se operó el mismo fenómeno.

De distinta manera, sin embargo, tuvo lugar el citado hecho climático en ciertas partes del Continente Sudamericano, las que en época geológica reciente ya tenían una considerable elevación sobre el nivel del mar, como sucede con la gran extensión de territorios, mesetas y lagos encerrados entre las dos cordilleras andinas,—la cordillera marítima y la cordillera real—, y que estaban ya emergidos en considerable altura desde la época terciaria, hallándose además relativamente cerca del Ecuador.

El Altiplano Boliviano, por ejemplo, asiento prehistórico de la mayor cultura de las Americas que no tuvo la gran altura sobre el nivel del mar que actualmente tiene, como más adelante comprobaré; no soportó, por su proximidad al Ecuador, un periodo glacial tan largo como los territorios de la actual Argentina, albergando por ello, mucho más antes que en otra parte, culturas humanas, o sea en una época en que los territorios argentinos eran cubiertos aún por el hielo continental, el que en el actual momento geológico y por algunos miles de años más, está retirado en la *Antarctis.*

Comprobado está, por los estudios y conclusiones de célebres capacidades en Geología y Geografía moderna, especialmente por los magistrales trabajos del Profesor Albrecht Penck, Ex-Director y Fundador del Instituto Oceanográfico de Berlín, que los hielos continentales de Europa, ejercían una presión enorme sobre aquellos terrenos encima de los cuales estaban superpuestos, *por lo cual descendían* y que después que aquellas masas glaciales se derretían o se retiraban de aquellas zonas, y por consiguiente se veían libres de su peso, estos territorios *otra vez ascendían.*

Este mismo fenómeno de ascensión de territorios—después de ser librados de una cobertura o peso glacial—*tuvo lugar en el Altiplano de Bolivia sin duda en una forma mucho más intensa que en otras partes del mundo,* en vista de que estaba ya situado en considerable altura y relativamente cerca del Ecuador. Por la citada mayor altura sobre el nivel del mar su clima nunca era tórrido, después del terciario; y por esta misma mayor elevación—naturalmente no tan pronunciada como la que tiene en la actualidad—y a causa de su proximidad al Ecuador, *aquella época glacial duró en él, en comparación con la de los terrenos del Sur, muchísimo menos tiempo, por lo cual se pudieron desarrollar allá, en una época relativamente remota* (*Primer periodo de Tihuanacu*), *grandes culturas del*

---

[3] de Geer, Gerard, Om moejlighten af att infoera en Kronologi foer instiden Geol. Foeren 6, 1882; *Id.*, Om de definitiva foerbindelsen mellan den svenska tidskalens senglaciala och postglaciala del Geol. Foeren, 46, 1924.

hombre, las que probablemente aún no existían entonces en tal alta escala de desarrollo, en otras partes de nuestro planeta.

Cuando al final de la última época glacial se formó el gran lago andino, cuyos límites al principio de este trabajo anoté, se produjo el siguiente fenómeno: Los hielos se derritieron primero en las zonas relativamente cercanas al Ecuador y la *enorme presión* o peso que gravitaba sobre las cordilleras y mesetas altas de las regiones andinas, desapareció muy lentamente y *entonces esos territorios principiaron a ascender también de manera paulatina,* mientras las zonas del Sur, como las de la Argentina, por su lejanía al Ecuador soportaron aún por un largo espacio una formidable calota de hielo, que retuvo estas regiones, en varias partes, aún sumergidas bajo el Oceano; mientras en otras zonas situadas más al Norte y de poco nivel sobre él, quedaban aún en condición estática.

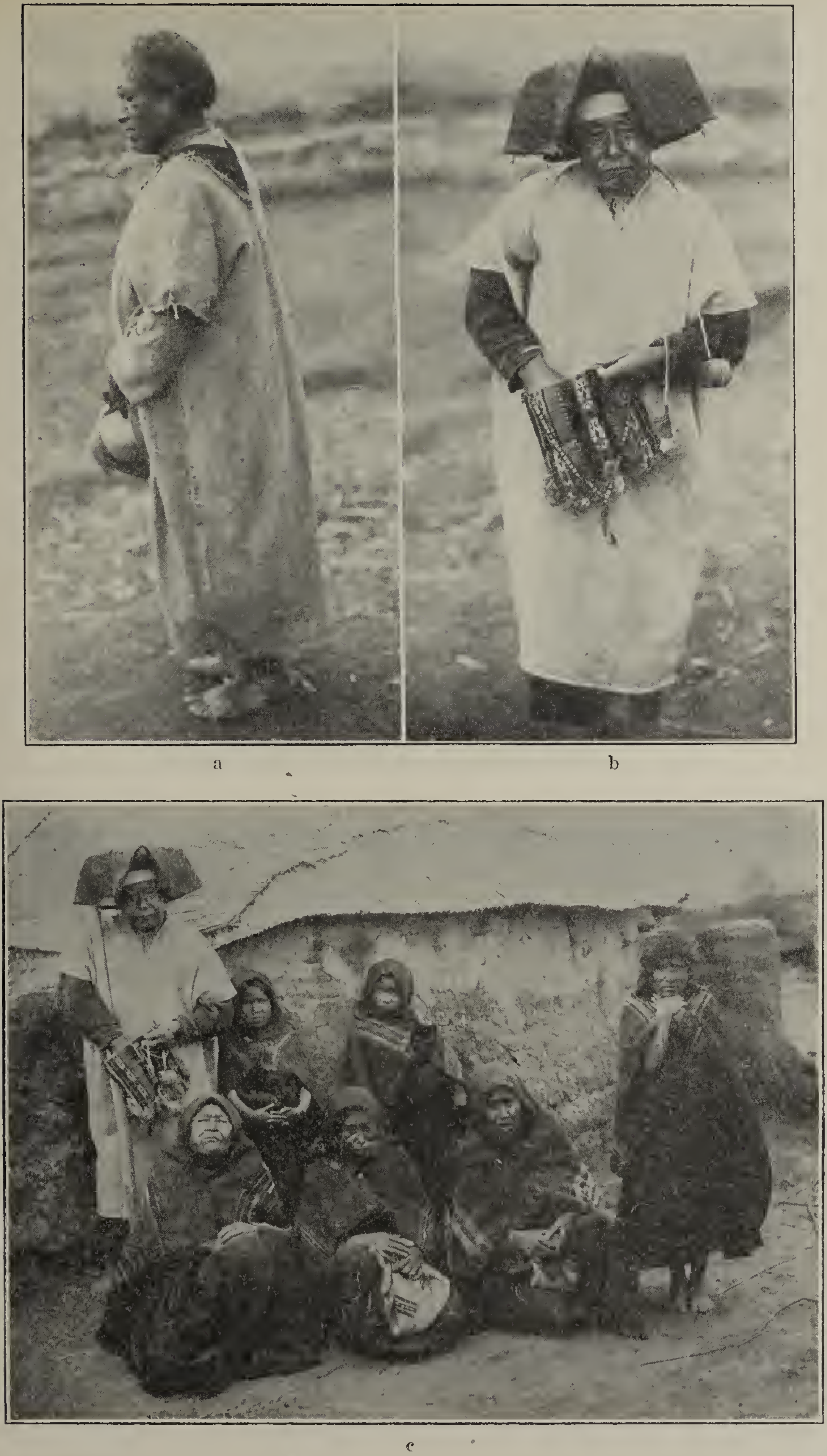
Poco a poco, o mejor dicho, secularmente, ascendía la parte norte del actual Altiplano y cordilleras, por la cesación del citado peso de los hielos y fué entonces que se produjo una primera inclinación que desaguó en parte el primer gran lago glacial (Lám. Ia) y después aquella otra inclinación—hace poco tan enigmática—del *último lago post-glacial o Lago Tihuanacu* cuya línea litoral he seguido en mi última expedición como ya dije en una extensión de 400 kilómetros. Siempre han existido en la región interandina extensos y salados lagos por supuesto de menor nivel y mucho antes de la última glacialización, ellos tuvieron su orígen, sin duda alguna, en la época terciaria cuando el Continente emergió por primera vez, suspendiendo aguas del Oceano y se formaron sus cordilleras. De aquelle lejana época procede también la fauna íctica marina en sus aguas y cuyos descendientes viven aún ahora y en escaso número, completamente degenerados, en el Titicaca y el Poopó.

La inmediata consecuencia de la citada primera ascención de la parte septentrional o sea de la región de las actuales altiplanicies con sus lagos, era la *remoción del cíngulo de las zonas climáticas,* o como llama a este fenómeno el genial Penck, *Verschiebung des Klimagürtels.* Con este favorable cambio climatérico en las orillas de los grandes ''ojos del mar'' o sea en los bordes del antíguo Lagomar Tihuanacu, se desarrollaron en pocos siglos culturas del hombre con un nivel altísimo, en vista de que aquellas masas humanas, cuyos ancestrales habían vivido antiguamente en esos mismos terrenos fértiles, benditos por la naturaleza y que habían emigrado hacia el Norte y Noroeste empujados por el frío de una principiante época glacial, a regiones más templadas, al retirarse los hielos regresaron nuevamente a aquella *tierra prometida,* de la cual daba cuenta el Folklore de sus antepasados. Esta *reinmigración* se llevó a cabo por haberse vuelto nuevamente tórrido el clima de las comarcas en que estaban durante el rigor de la época glacial y el cual tenía el benigno clima de las estepas, o mejor dicho, eran *Trockengürtel*[4] en la época en que las mesetas andinas, sus antiguas *moradas de orígen* estuvieron cubiertas por los hielos continentales.

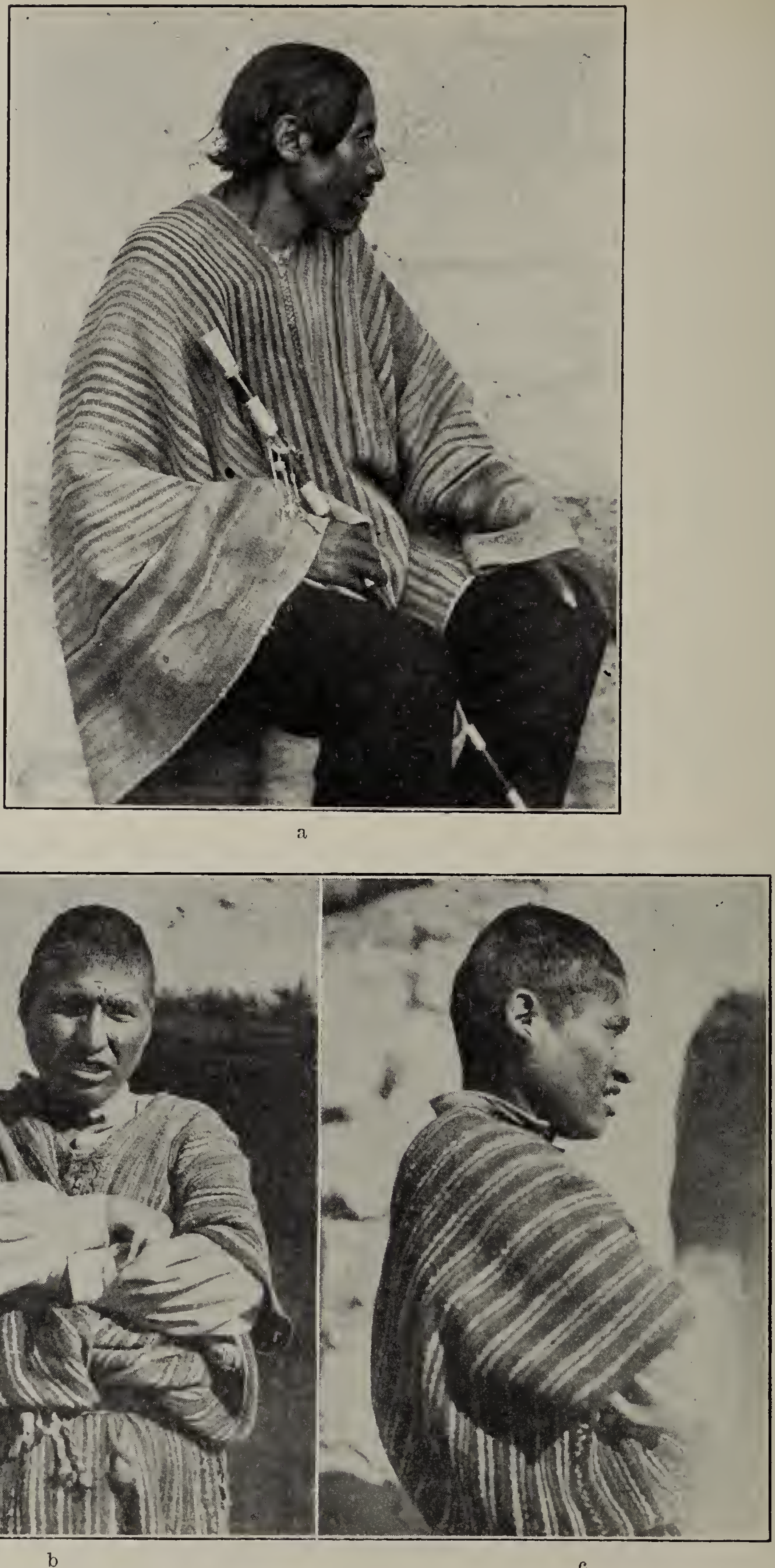
Las pruebas palpables de esos flujos y reflujos de masas humanas con antiquísimas culturas, notamos en los restos, aún existentes de la primera, segunda y tercera época de Tihuanacu, en al Altiplano, así como también en los artefactos

---

[4] Trockengürtel, terminus technicus alemán, que quiere decir: ''zonas cingulares de poca precipitación atmosférica.'' El ''Trockengürtel'' que actualmente se halla en el Suroeste del Perú y el Norte de la Argentina, estaba ubicado en la época glacial en la zona ecuatorial.



a, UN TÍPICO ''URU,'' SIN MEZCLA, DE LA TRIBU IRU-ITU, QUE HABITA EN LA MÁRGEN IZQUIERDA DEL DESAGUADERO Y QUE HABLA UN IDIOMA DE LA GRAN RAMA LINGÜISTICA AROWAQUE (ARUAK); *b*, UN ''URU'' DE IRU-ITU DEL DESAGUADERO CON SU TÍPICO SOMBRERO Y EL ''MARI'' (ESCARCELA). EN EL CUELLO TIENE COLGADO EL ''LIHUI,'' ARMA QUE USAN PARA CAZAR PÁJAROS EN LA LAGUNA ''HAKONTA-PALAYANI''; *c*, FAMILIA URU EN IRU-ITU, CON SUS TÍPICAS VIVIENDAS CUBIERTAS CON ''TOTORA'' (MALACOCHAETA TOTORA)



a, TÍPICO ‘‘COLLA-AYMARA’’ DE COLLANA, CONQUISTADORES PREHISTÓRICOS DE LOS ‘‘URU CHIPAYAS’’; *b*, TIPO ‘‘CHIPAYA’’ DE LOS DESIERTOS DE CARANGAS, CERCA DE LOS SALARES DE COIPASA, QUE HABLAN UN IDIOMA QUE TIENE PARENTESCO CON EL LOS ‘‘URUS’’ Y TAMBIÉN PERTENECIENTE AL GRAN TRONCO LINGÜISTICO AROWAQUE; *c*, EL PERFIL DE LA LAMINA V, *b*.

del tipo Tihuanacu, que aparecen en el Norte del Perú tanto en la costa del Pacífico (Nazca, Chimú, Pachacamac, etc.[5]) cuanto también en los restos culturales de la misma especie, cubiertos en la actualidad por los bosques del Beni, Madre de Dios y principalmente en las tierras firmes de las orillas del Amazonas, en particular, sobre la isla Marajó, en el actual Delta del Amazonas, que antiguamente formaba parte de un vasto territorio[6] ahora cubierto por el Atlántico. Todas aquellas zonas tuvieron entonces, como he dicho, el clima de estepas, muy favorable para el desarrollo de la especie humana y no un clima cálido como en el presente, que ha cubierto de exuberante vegetación tropical estas tierras en las cuales, por esa misma condición, ya es imposible el desarrollo y la ascendencia a una cierta cultura.

Las tríbus que allí se quedaron, es decir los actuales indios de los bosques de la cuenca amazónica, tuvieron en aquella época lejana un relativamente alto nivel de cultura, como demuestran los hallazgos prehistóricos (Fig. 3–5) que frecuentemente podemos estudiar en las orillas de los ríos que atraviesan aquellos territorios y cuyos barrancos se desmoronan en época de aguas dejando en descubierto ''estratos de culturas antiguas.'' Estos habitantes relegados, o diremos mejor ''residuos de razas emigradas,'' se volvieron *Segundarios Primitivos,*[7] en vista de que su civilización tuvo que decaer por haberse transformado nuevamente las zonas de sus moradas, de estepas en bosques vírgenes, ahora inadecuados para la agricultura, ganadería y para hacer mayor vida cultural o vida sedentaria. Que los bosques que albergan estas tribus son *enteramente recientes,* se evidencia por la delgadísima capa de ''humus'', sobre la cual ha germinado la vegetación de las selvas tropicales y que escasamente tiene ciento cincuenta centímetros de espesor, término medio.

Las pruebas elocuentes de las citadas migraciones son: Que en un amplio distrito que se extiende de Norte a Sur sobre más de 30 grados geográficos y que ahora se halla cubierto por la floresta tropical, se hablaban y se hablan lenguas *Arowaques* (Aruakes), que tienen un parentesco extraordinario con los idiomas de los Urus (Lám. IV) y Chipayas (Lám. V, VI) los que constituyen los últimos deshechos de razas prehistóricas, diseminadas actualmente en las orillas del Titicaca, Desaguadero, Isla Panza en el Poopó y Sur de Carangas (Salares de Coipasa). Por supuesto, nada tienen que ver los citados restos de Chipayas y Urus con *Mitimayos* traídos por los llamados Incas.

Las cerámicas de los prehistóricos pueblos Arowaques (Aruakes) que hallamos en las excavaciones de los sitios de cultura en la isla de Marajó del Delta del Amazonas son idénticas a las de Tihuanacu (Lám. VII, VIII). Todo lo expuesto anteriormente, del punto de vista geológico, justifica también el facto por el cual no hallamos en la Argentina actual ningun resto de grandes culturas propias, sino

---

[5] Véase Posnansky, Las cerámicas eróticas de los Mochicas y su relación con los cráneos occipitalmente deformados, *Anales de Antropología, Etnología y Prehistoria de Franckfort,* año 1925, y *Publicación del Instituto de Antropología, Etnografía y Prehistoria, de Bolivia,* Imprenta ''Renacimiento,'' La Paz, 1926.

[6] En la isla Marajó sobre ciertos trechos en que se hallan estratos de culturas y en los que se encuentran magníficas cerámicas, invaden en la ''marea alta'' las aguas del Oceano Atlántico.

[7] ''Segundario primitivo'' llama la moderna antropología a los pueblos que han tenido antiguamente una considerable cultura y, por uno u otro motivo, han vuelto a hacer una vida primitiva, a vulgarmente dicho, se han vuelto ''salvajes.''

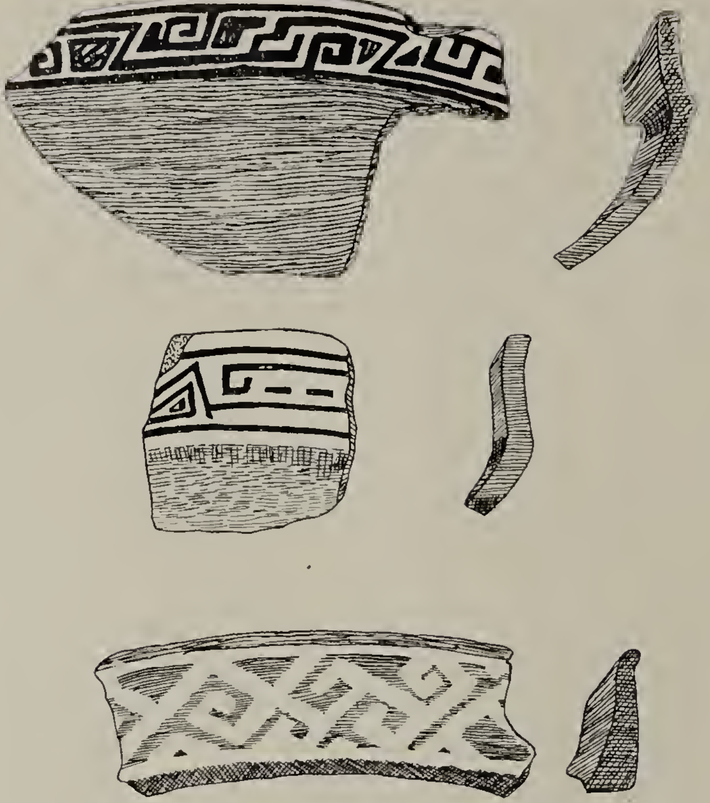


Fig. 3—fragmentos de cerámica tipo "tihuanacu" hallada en estratos de cultura prehistórica, cerca de riberalta (márgen derecha del río beni)

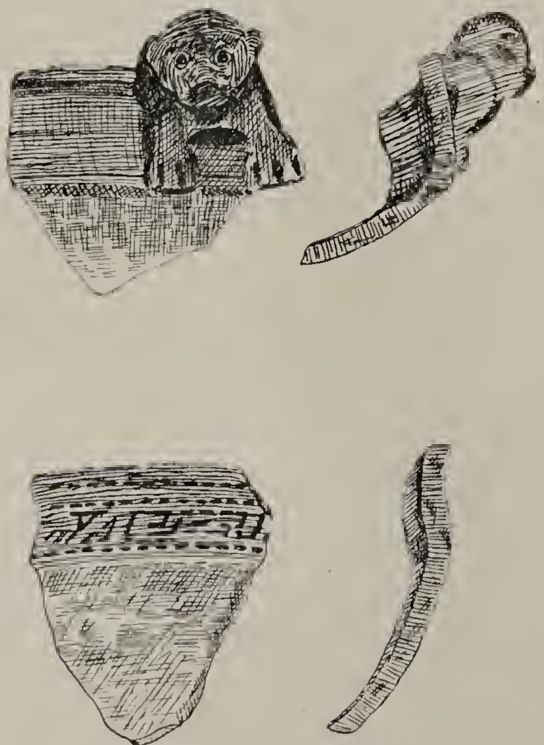


Fig. 4—fragmentos de cerámica tipo "tihuanacu" hallada en estratos de cultura prehistórica, cerca de riberalta (márgen derecha del río beni)

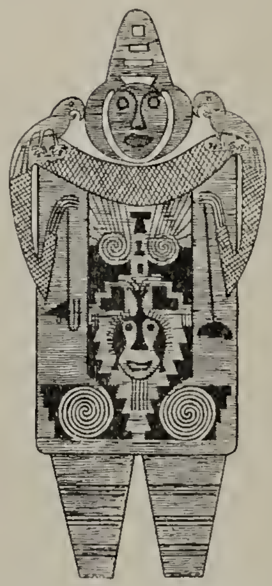
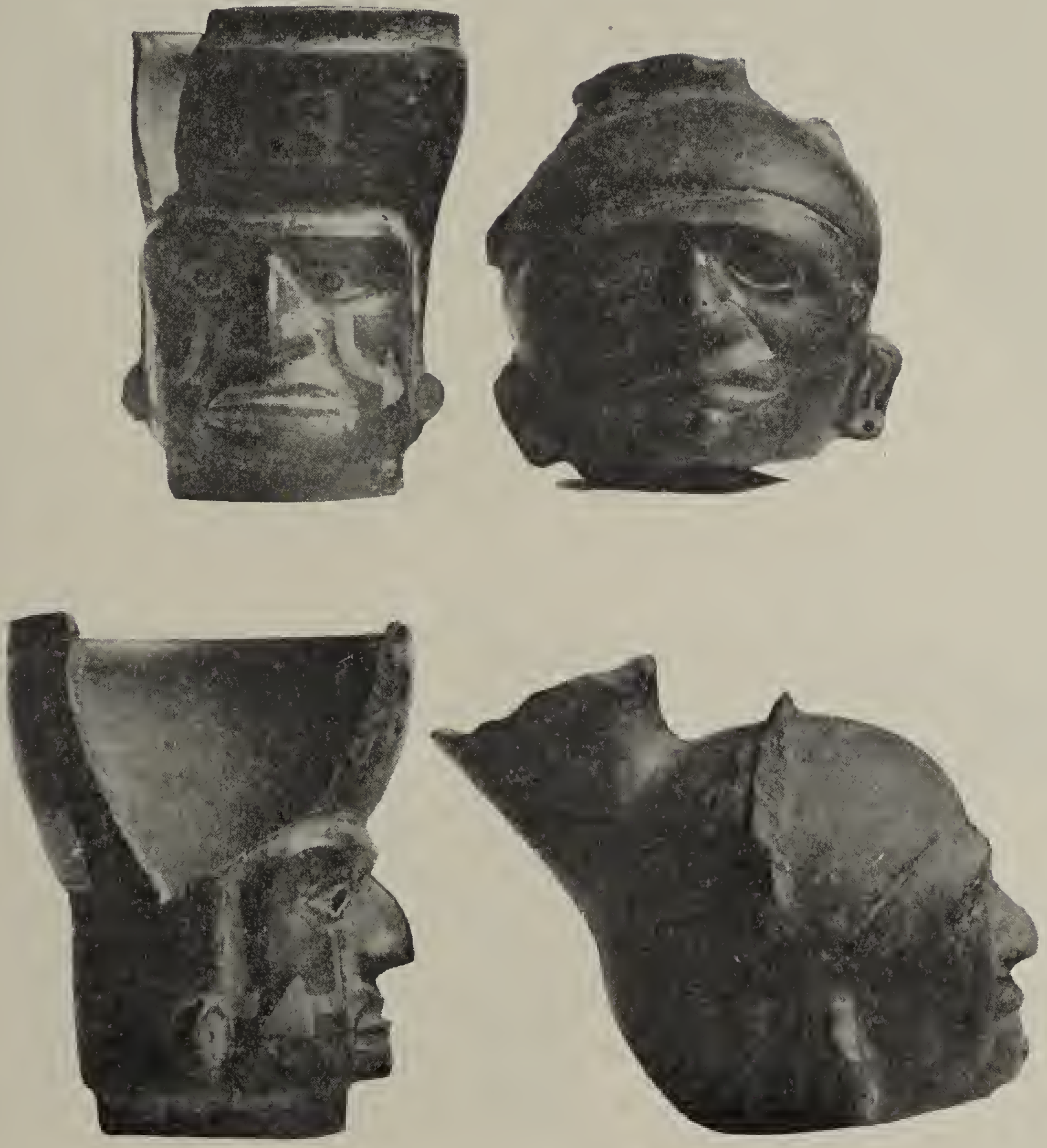
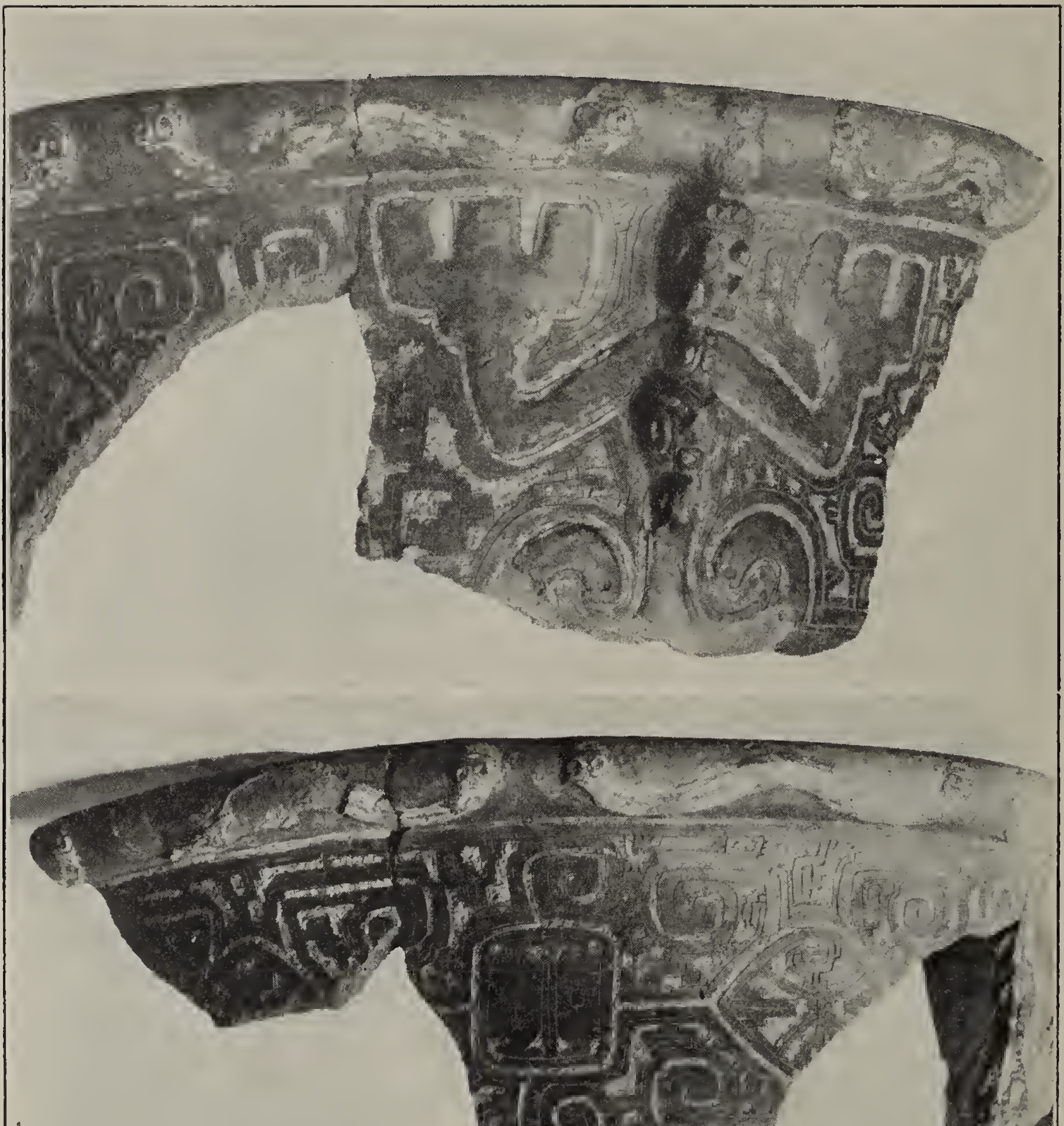


Fig. 5 — dibujo esquemático de una plaqueta pectoral de bronce "tipo tihuanacu" hallada en estratos de cultura prehistórica cerca de riberalta (márgen derecha del río beni), colección fehrmann sorata. Véase posnansky, *El signo escalonado*, berlin, 1913, pags. 14, 18, 74. (en vez de los felinos se vé loros)



a, CERÁMICA DE UN COLLA-AYMARA HALLADA EN LAS EXCAVACIONES DE TIHUANACU (BRAQUICEFALO). VÉASE LA LAMINA V, *a*; *b*, CERÁMICA DE UN URU (ARUAK) ENCONTRADA EN LAS EXCAVACIONES DE TIHUANACU (DOLICOCEFALO). VÉASE LA LAMINA IV



CERÁMICA TIPO "TIHUANACU" HALLADA EN LA ISLA MARAJÓ (DELTA DEL AMAZONAS) QUE OSTENTA LA "ONDINA CON TRES DEDOS" (VÉASE POSNANSKY, LOS CHIPAYAS DE CARANGAS, *Instituto Tihuanacu de Antropologia, Etnografía y Prehistoria,* LA PAZ, BOLIVIA, 1918, PAG. 8, FIG. 1). LOS ORIGINALES SE HALLAN EN THE AMERICAN MUSEUM OF NATURAL HISTORY de civilizaciones incipientes, mas o menos recientes y totalmente influenciadas por la época de decadencia de Tihuanacu, cuya cultura, cuando estaba en su auge, era la dominante en época prehistórica, en todo el Continente Americano.[8]

Las estepas sudamericanas, en las cuales tuvo lugar un desarrollo notable de masas humanas, poseían un clima con temperatura y vegetación semejantes al de la actual Arequipa, en el Perú, o sea de condiciones climatéricas de cabecera de valle, un temple privilegiado para la propagación de la especie humana y el desarrollo de su cultura, o sea un clima más seco que húmedo.

La segunda inclinación del territorio interandino principió, cuando la cultura del tercer periodo de Tihuanacu llegó a su mayor apogeo, entonces desaguó la mayor parte de aquel formidable lago, ascendiendo más las mesetas andinas, cuya consecuencia inmediata era un nuevo cambio climatérico con un desmejoramiento del clima, causando nuevamente un decaimiento de cultura y una acentuada emigración a las costas Oeste y Norte del Pacífico (Lám. VIIIb). En la sección septentrional del Altiplano la mayoría de las aguas del gran Lago-mar Tihuanacu han fluído hacia el Amazonas debido al citado fenómeno de elevación de las mesetas, abriéndose paso por las actuales quebradas de Sorata. Poco más al Sur, se precipitaron también caudales de agua por entre el Mururata y el Illimani, hacía la Cuenca amazónica debiendo haber principiado este desagüe por la quebrada sobre la que está ubicada actualmente la ciudad de La Paz, en Bolivia, y en cuyas alturas o faldas actuales hubo una antígua población del tipo Tihuanacu. El lugar se llama ahora Hanko-Hanko,[9] donde en excavaciones que practiqué encontré objetos del tipo netamente Tihuanacu.

Por el Sur, las aguas, y anteriormente las corrientes fluvio-glaciales, se buscaron salida hacia la actual Argentina, cuyo testimonio más elocuente se encuentra en el lugar denominado *Volcan,* punto, clásico de una típica ''garganta-efluente'', y, por el Suroeste, en dirección de las actuales salitreras de Chile hacía el Pacífico.

Todos los desiertos que se extienden en el Litoral del Pacífico, incluyendo el de Atacama, la mayoría de los cuales son hoy inaptos para albergar culturas humanas de consideración, guardan en su suelo restos culturales del tipo Tihuanacu, cuya existencia hace suponer el desarrollo de una actividad artística e industrial en estas regiones, la que solo podía desenvolverse en un clima apacible, que proporcionaba facilidades para la vida humana. Todos aquellos restos de manifestaciones culturales, descubiertos en excavaciones verificadas por arqueólogos constituían un enigma hasta hace poco, cabe decir, un enigma que quedó descifrado totalmente con la comprobación del facto de una suspensión de las mesetas andinas y la inclinación relativamente reciente del Continente Sudamericano, todo lo cual quedó definitivamente comprobado por la tantas veces citada *línea inclinada* del antiguo lago glacial Tihuanacu en el Altiplano andino y las *formidables líneas marinas en considerable altura sobre los cerros que bordean en los respectivos lugares el Pacífico.*

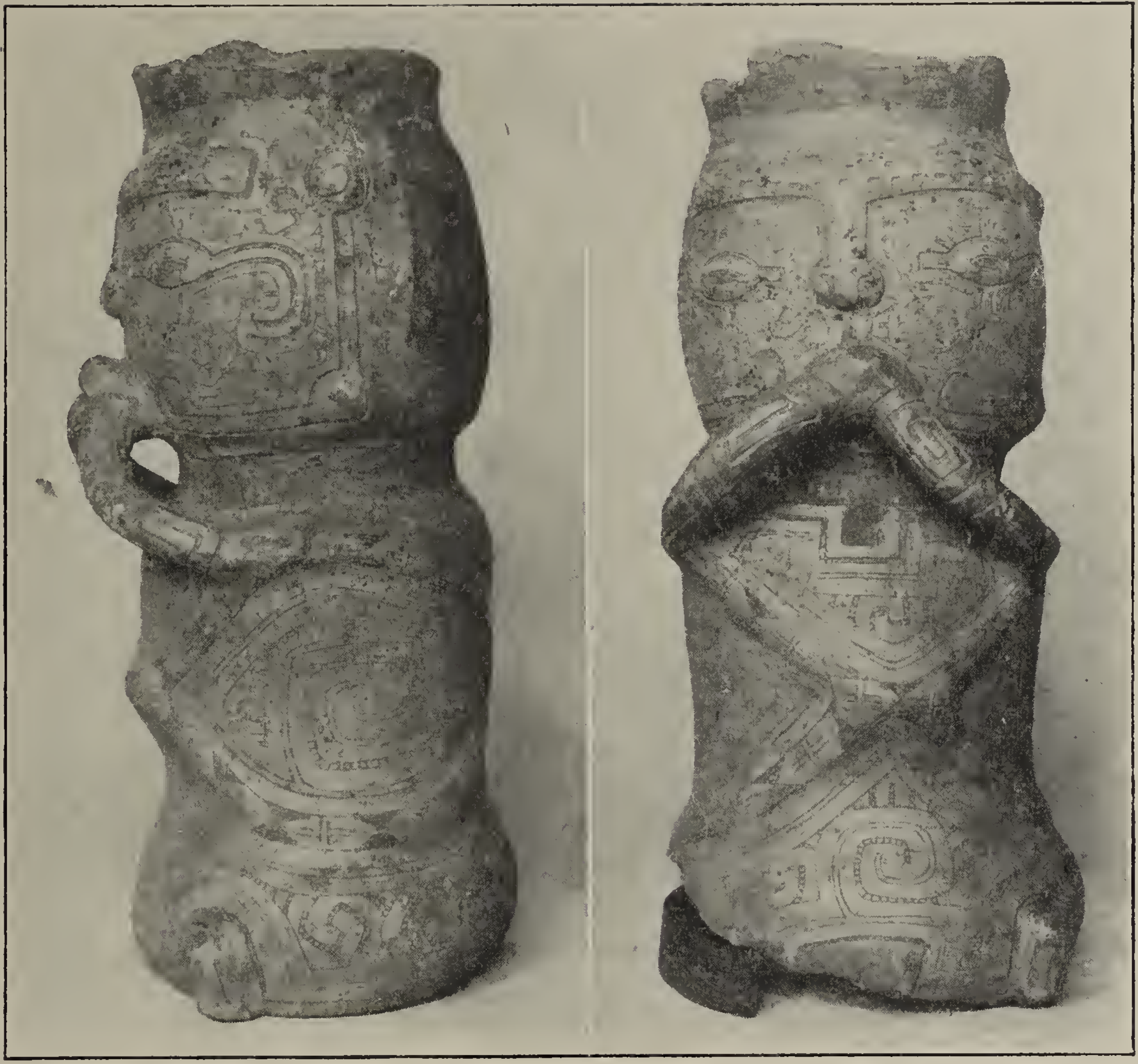
---

[8] Vease: Posnansky.—En las Americas existió una lengua, una raza y un simbolo primitivo que era base de un dogma general.

[9] Vease: Posnansky, *Una Metrópoli prehistórica,* Berlin, 1914, p. 62 (VII).

La remoción del cíngulo climatérico, motivado por la suspensión de las mesetas andinas, es el único motivo de la emigración de los pueblos y decadencia de las altas culturas de la región interandina.

Instituto Tihuanacu de Antropología, Etnografía
y Prehistoria,
La Paz, Bolivia.



a

b

a, CERÁMICA HALLADA EN LA ISLA MARAJÓ (DELTA DEL AMAZONAS) CON TÍPICOS DIBUJOS TIHUANACU (VÉASE EL "OJO ALADO" EN LA CARA DE ESA FIGURA; VÉASE EL "OJO ALADO" EN, POSNANSKY, UNA METRÓPOLI PREHISTÓRICA, PAG. 150, PLANCHA L, BERLIN, 1914). EL ORIGINAL SE HALLA EN EL AMERICA MUSEUM OF NATURAL HISTORY; *b*, EL VOLCÁN KJAPPIA SOBRE EL ISTMO DE YUNGUYO, EN EL TITICACA, CUYAS ERUPCIONES ACOMPAÑADAS CON EL DESBORDE DEL LAGO TIHUANACU, CAUSARON LA DESTRUCCIÓN DEL TIHUANACU DEL III PERIODO; FENÓMENO SISMICO COETÁNEO CON LA SEGUNDA INCLINACIÓN DEL TERRITORIO INTER-ANDINO

SPÄTE MASTODONTEN IN ECUADOR

Von Max Uhle

Der Zeitpunkt des Aussterbens mastodonartiger Tiere auf amerikanischem Boden war bisher immer ungenügend bestimmt. Vielfach neigte man offenbar dazu anzunehmen, dass derartige Tiere bald nach Beendigung des Pleistocens, vielleicht noch vor der Ankunft des Menschen im Kontinente ausgestorben seien. Kaum eine andere Ansicht kann auch aus der interessanten Übersicht über die Klassen mastodonartiger Tiere im Kontinente, welche von Professor H. F. Osborn[1] zusammengestellt wurde, hervorgehen. Zwar hatte schon Henshaw in den 80er Jahren darauf hingewiesen, dass Reste von Mastodonten in Nord Amerika zum Teil noch in so jungen Schichten gefunden werden, dass die Tiere noch bis ca. fünf hundert Jahre vor der Ankunft der Europäer gelebt haben könnten. Wiederholt sind auch Funde von Resten von Mastodonten zusammen mit Pfeilspitzen vom Menschen angezeigt worden, wie z. B. auch von dem vortrefflichen Beobachter Doktor Koch, von dem solche Pfeilspitzen dem Zoologischen Museum in Dresden übergeben wurden. Doch sind derartige Funde, soweit bekannt ist, immer als unzuverlässig abgelehnt worden. Vielleicht hat zu solchen Schlüssen der Umstand mit beigetragen, dass man, wie es scheint, grössere Jagdplätze mit einer Mischung von Resten der verschiedensten gejagten Tiere, die in der paläolithischen Zeit Europas so häufig sind, in Nord Amerika kaum aufgefunden hat.

Für das Zusammenleben mastodonartiger Tiere mit dem Menschen waren die Bedingungen in Südamerika wol ähnlich, wie im Norden. Auch dort waren bisher keine sicheren Funde für den Beweis der Begegnung beider im Leben gemacht worden. Fast konnte man dazu neigen, von der Auffindung der Verbindung beider in geologischen Schichten Beweise für ein höheres Alter des amerikanischen Menschen, als das bisher überhaupt schon erwiesene, zu erhoffen.

Allein solchen Spekulationen hat jetzt, wenigstens auf südamerikanischem Boden der beachtenswerte Fund eines von menschlichen Resten begleiteten vollständigen Mastodon-Skelettes bei Alangasí, zwölf km. östlich von Quito, durch Franz Spillmann von der Universität von Quito, ein Ende gemacht. Der Schreiber dieses hat bei dem Funde nur die Rolle gespielt, dass er nach den ersten Tagen der schwierigen Ausgrabung (Wetterverhältnisse, Besorgniss von Beraubung der Funde durch Einheimische) von dem Finder aus Quito herbeigerufen wurde, als Zeuge des intimen Zusammenfindens der Reste von Mastodon mit denen des Menschen, durch fünf Tage lang den Fortschritt der Ausgrabung als Zeuge begleitet, und in der Beurteilung und Aufsammlung der vom Menschen bei dem ganzen Funde herstammenden Reste behilflich war. Fortan wurde jede für die Fundlage wichtige Einzelheit am Orte genau registrirt, jeder Fund mit Angabe der Fundweise und der Lage am Skelette gebucht, und auch das Fundobjekt selbst mit den correspondierenden Nummern versehen. Irrtümer über die Fundlage sind also vollständig ausgeschlossen, und es bleibt in dieser Hinsicht der Wissenschaft wol kaum etwas anderes übrig, als die hier reproducierten Angaben als Tatsachen zu übernehmen.

---

[1] Mastodons and Mammoths of North America, *Guide Leaflet No. 62, The American Museum of Natural History,* New York, 1926. Pág. 5.

Die allgemeine Orographie dieser Gegend des ecuatorianischen Hochlandes (meist 2800–3000 Meter Höhe, abgesehen von dazwischenliegenden Tälern) dürfte aus Specialkarten hinreichend bekannt sein. Östlich von dem bis zu 4700 Meter hohen Pichincha, in dessen östlichem Schatten die Hauptstadt Quito liegt, erhebt sich, ziemlich isoliert, jenseits des zum Guaillabamba abströmenden San Pedro-Flusses, der früher vulkanische Ilaló-Berg zu ca. 3200 Meter Höhe. Die Kordillere mit dem vulkanischen Schneeberg Antisana bleibt östlich. Nördlich und südlich ist der isolierte Ilaló von zwei desjenigen Tälern des Guaillabamba Flusses (in der Gegend von Tumbaco 2400–2500 Meter hoch) und des von Chillo begrenzt.

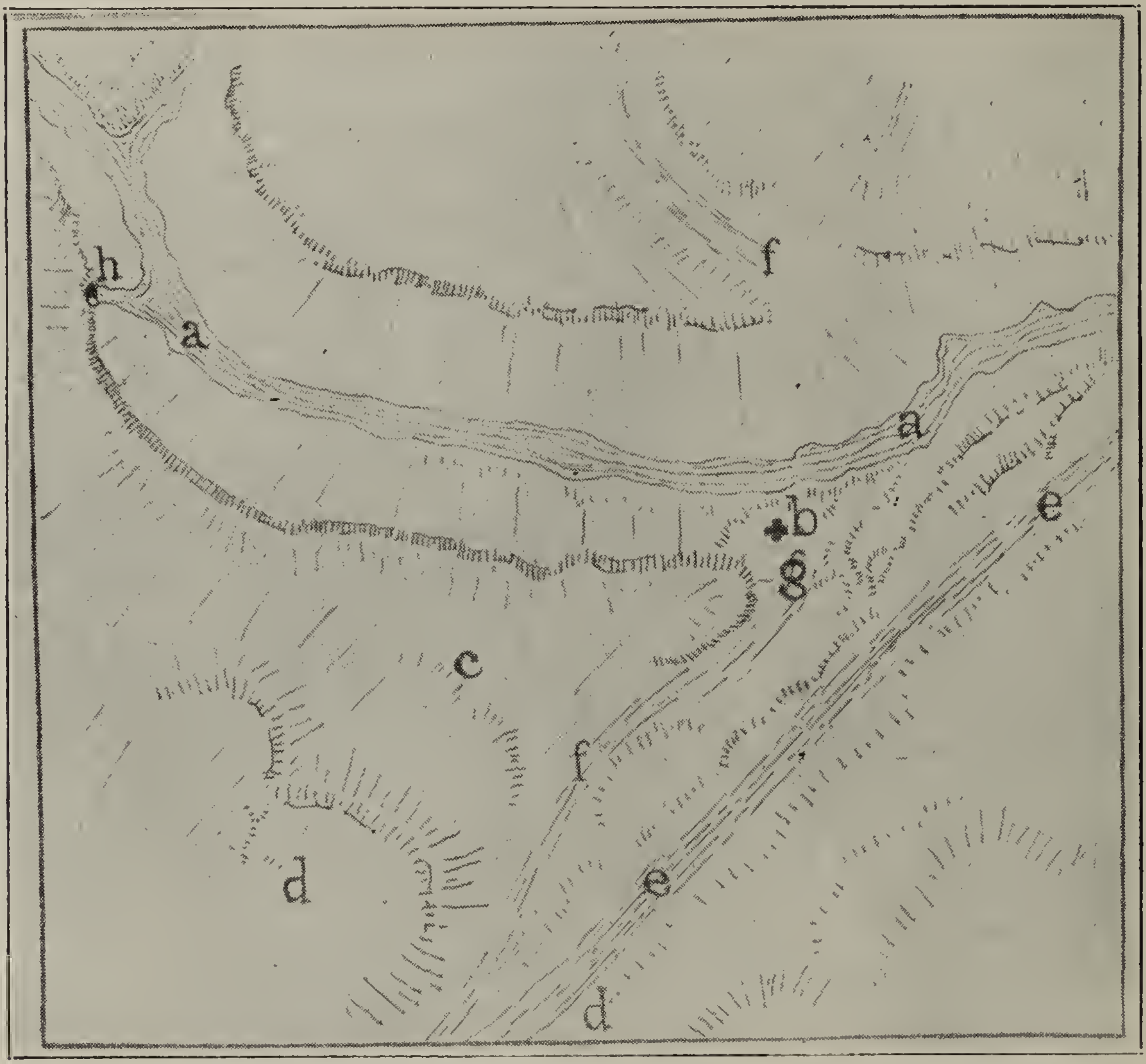


Fig. 1—Skizze des Fundortes des Mastodon, Alangasí, Ecuador

Mastodon-Reste, Zähne, auch Stosszähne, und andere, werden in der ganzen Gegend um den Pichincha und Ilaló beständig gefunden; um den Pichincha herum besonders nördlich (Cotocollao) und südlich (Magdalena), wie auch in einiger Entfernung nordöstlich (Naon), hauptsächlich in Schluchten (die vom Pichincha herabkommenden Erdmassen hatten sie verschüttet); an der Nord-

und Süd-Seite, und den entsprechenden Abhängen, des Ilaló Berges ganz allgemein oberflächlich. Die steil zum San Pedro Fluss abfallende West- und die abgekehrte Ost-Seite sind daraufhin noch nicht untersucht. Professor Spillmann hatte schon seit längerer Zeit jene an paläontologischen Resten reichen Gebiete zu einem Gegenstand besonderer Studien erhoben.

Reste von Mastodon, Pferd, Mylodon, Glyptodon, finden sich da überall gemischt bei einander. Am Südabhang des Berges machen sich, nach Spillmann, in verschiedener Höhe Jägerplätze bemerklich, wo gleichfalls Reste von diesen Tieren (dabei zugleich auch Stosszähne vom Mastodon) gemischt unter einander liegen, zusammen mit Knochen anderer Steppentiere, wie Hirschen und Hasen. An einem solchen, in etwa 2700 m. Höhe, an der südöstlichen Seite des Ilaló, etwa 3 km. nordöstlich von Alangasí, werden auch Scherben von gebrannten Töpfen von Typen, die nicht der jetzigen Zeit angehören, untermischt mit den Knochen gefunden.

Nördlich von Alangasí (2570 m. Höhe) am südwestlichen Fusse des Ilaló fliesst der kleine Cachihuaico (''Salzbach,'' so genannt von einer weiter abwärts befindlichen Alaun-Mine) dem San Pedro zu (siehe Fig. 1, a). In der Nähe des auf einer Brücke darüber führenden Weges (e) ist sein nur 6–8 m. breites Bett von 7–10 m. hohen Wänden begrenzt. Nach heftigen Regengüssen schwillt er häufig auf kurze Zeit sehr stark an. Wenige Meter westlich von dem neuen Wege führte früher der alte (f) über eine Senkung in den beiderseitigen Abhängen direkt durch das Bett. In der Nähe abwärts war ein alter Jägerplatz (c), an dem sich gleichfalls Knochen verschiedener ausgestorbener Tiere durch einander finden, über dem linken Abhange an der Seite des kleinen Flusses.

In der Schlucht, etwa 3 m. links von dem Bette des Flüsschens, dicht in der Nähe des südlichen Abhanges (7 m. Höhe), neben demselben, wurde das vollständige Skelett eines Mastodon, in etwa 1 m. Tiefe, 2 m. über dem Bette des Flusses, unter vom Abhange und früheren Wege her abstreichenden Schichten, gefunden (siehe Fig. 1, b).

Die Stratification war an dieser Stelle die folgende:—

Zu unterst eine mächtige Schicht blauen Tones, darüber eine gelbe Lehmschicht von wechselnder Dicke: in dieser lag das Skelett vom Kopf- bis zum Schwanz-Ende (5 m. Länge) in OSO–NNW licher Richtung gebettet.

Etwa 1 m. deckende Schichten darüber.

Vielleicht hatte das Tier versucht die kleine Schlucht zu kreuzen, um den gegenüberliegenden Abhang zu gewinnen. Vielleicht war es dahin auch von Jägern getrieben worden. Das Terrain war damals dort sumpfig. In den Sumpf geraten, war das Tier anscheinend durch die Angriffe der Jäger zur Strecke gebracht worden.

Es lag der Länge nach auf seiner linken Seite (vergleiche Fig. 2), die Hinter- und Vorderbeine gestreckt (von der Wirbelsäule bis zu den Füssen 2.80 m. Höhe). Durch sein Gewicht war es bis zu etwa 50 cm. Tiefe in dem Sumpfe versunken. Der durch den Druck an den Seiten hervorgepresste gelbe Lehm befand sich an den Seiten so hoch über der Basis des Tieres. Noch lebend, hatte das Tier versucht, in dem Sumpfe wieder aufzustehen. Der Kopf war etwas erhoben, der rechte Vorderfuss, wie der Befund ergab, nach der Höhe des Kopfes geführt worden, wol um einen Stützpunkt in dem umgebenden festeren Boden zu gewinnen. Wahrscheinlich aber schon bechädigt, war ihm das offenbar nicht mehr gelungen.

An dem Skelett fehlten zu seiner Vollständigkeit nur folgende Teile: der rechte Stosszahn, von Anfang an oben liegend und dann sekundär abgetragen; der rechte Vorderfuss (ursprünglich erhoben, und dadurch wol auch das fossile Lager zuerst bemerkt); ferner die Gesammtheit der rechten Rippen (gleichfalls ursprünglich oben liegend). Alle übrigen Knochen waren in der richtigen Lage.

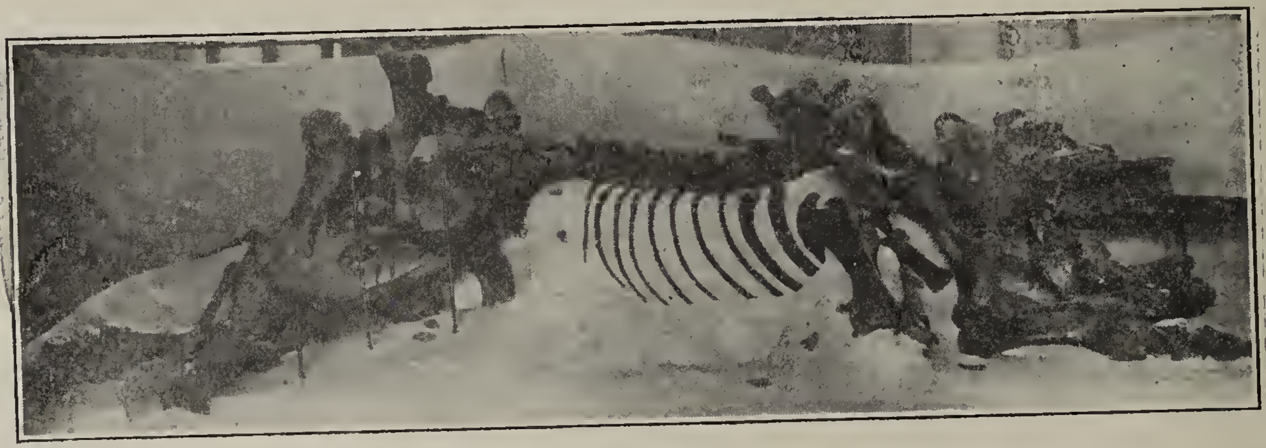


FIG. 2—DIE LAGE DES MASTODON AN SEINEM FUNDORT (FLUSS CACHIHUAICO BEI ALANGASÍ, ECUADOR). WIEDERAUFSTELLUNG DES SKELETTES NACH SEINER URSPRUNGLICHEN LAGE AM FUNDORT, IM ZOOLOGISCHEN KABINET DER UNIVERSIDAD CENTRAL, IN QUITO

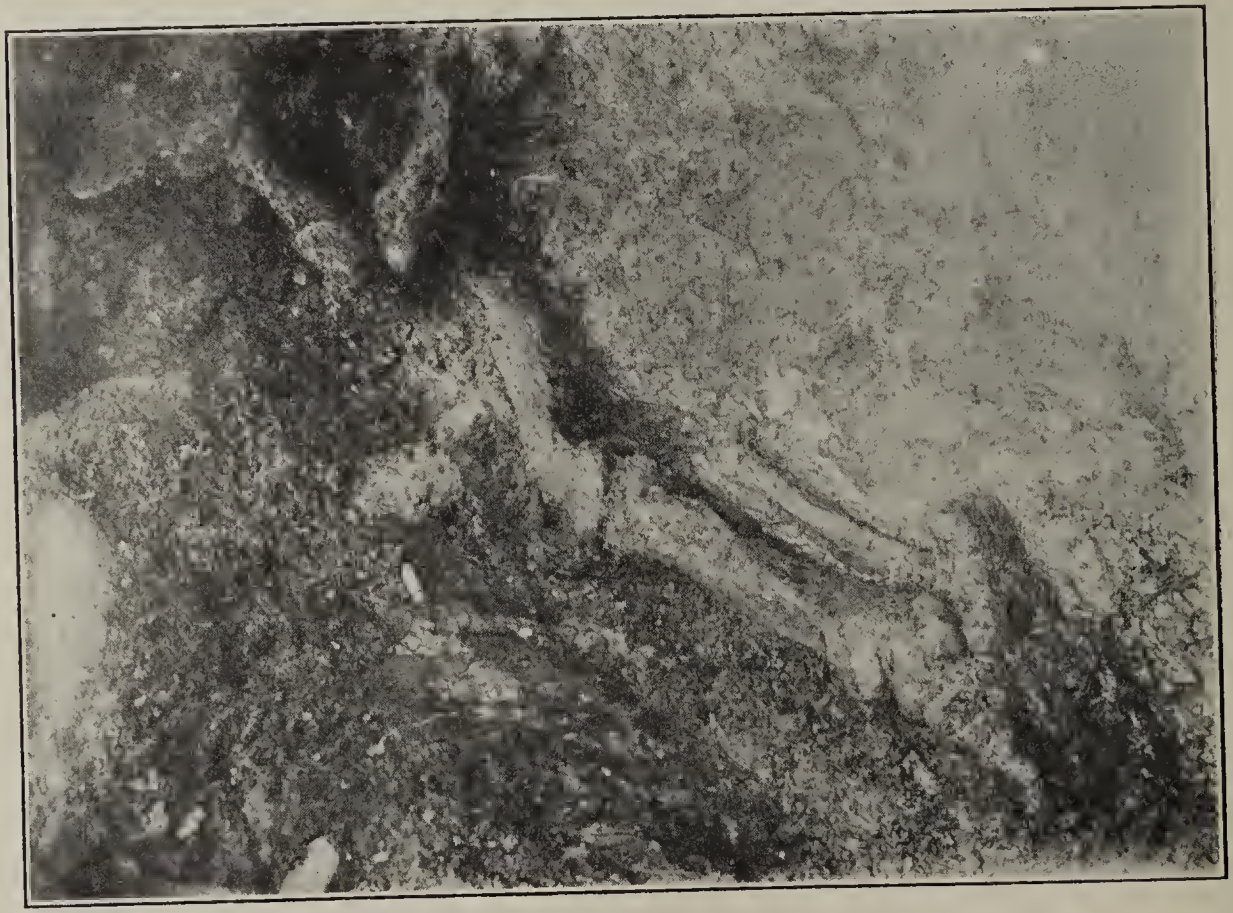


FIG. 3—DIE LAGE DES LINKEN BEINES DES MASTODON IN DER ERDE

Die rechte Seite des Hinterkopfes des Tieres (Fig. 4) zeigt zwei nur vom Menschen herrühren könnende Läsionen (Fig. 5): in 5 cm. Abstand von einander zwei oberflächlich schon vernarbte Schnitte, der eine 2.7, der andere 5 cm. lang,

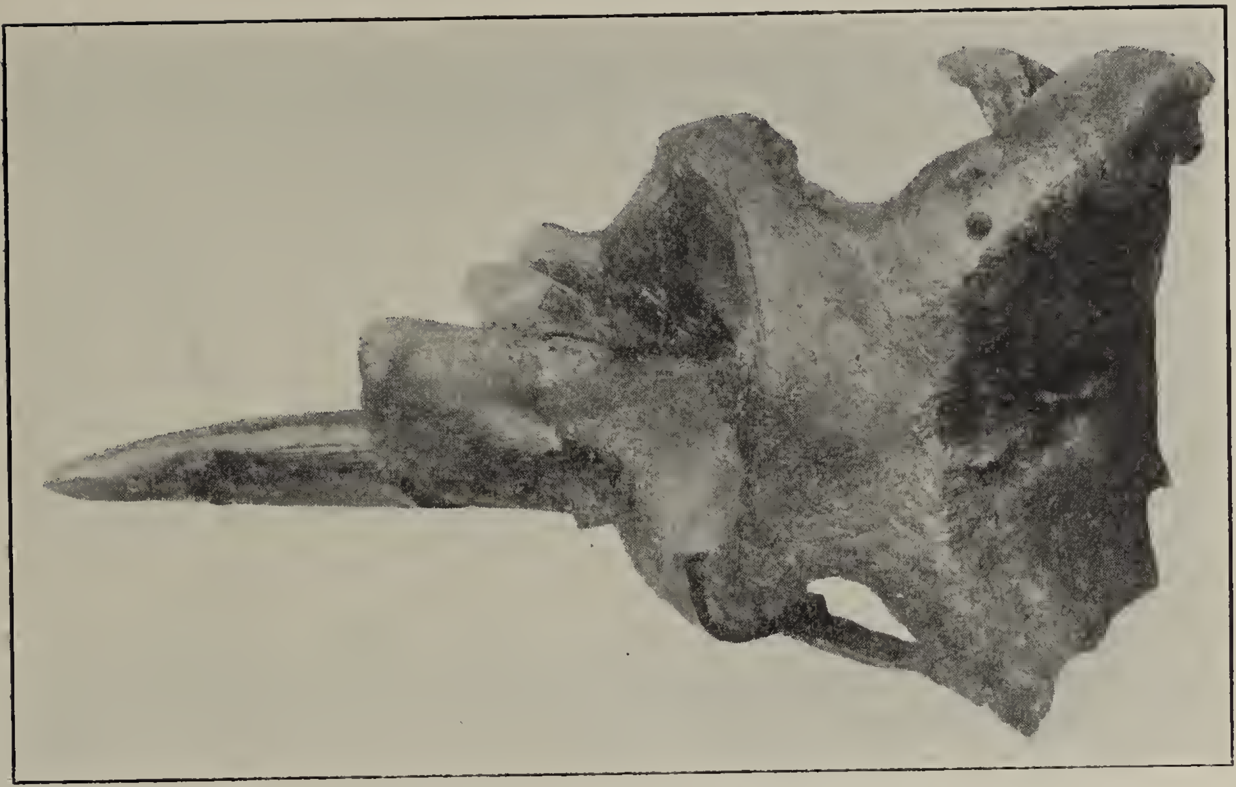


FIG. 4—DER SCHÄDEL DES MASTODON MIT SEINEN LÄSIONEN

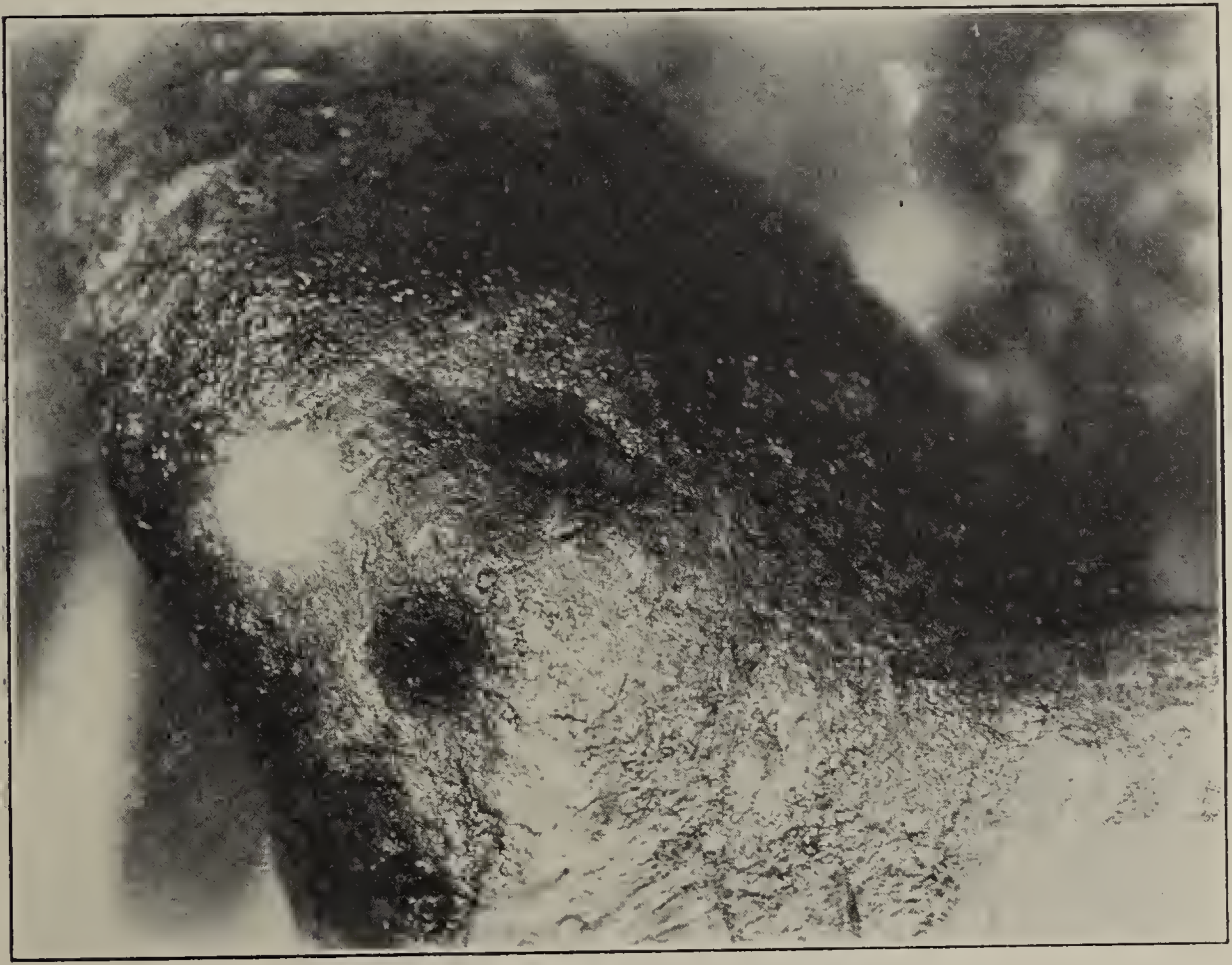


FIG. 5—ALTE LÄSIONEN DES SCHÄDELS

beide ½ cm. breit. In der Mitte des einen, und am Ende des anderen, ein 1 cm. und ein 2 cm. im Durchmesser haltender, 2.50 cm. tief in den Knochen hinabsteigender Trichter, jeder von beiden offenbar ein alter Eiterkanal, durch die

Wunden, die das Tier durch zwei Pfeile oder Lanzen erhalten hatte, veranlasst. Der eine von beiden endete blind in dem Knochen, der andere in einer Luftkammer nach dem Inneren des Schädels. Beide, gleichwie die ursprünglichen Schnitte, vollständig vernarbt.

Schon in seinem früheren Leben hatte daher das Tier einen Angriff vom Menschen erfahren. Es bedeutete dies wol den ersten entscheidenden Beweis unter allen Erfahrungen, die man bisher mit fossilen Tieren dieser Art in Amerika gemacht hatte, für sein früheres Zusammenleben mit dem Menschen auf amerikanischem Boden.

Die Beobachtungen im Verlaufe der Ausgrabung boten weitere Besonderheiten dar.

Die etwa 1 m. betragende Deckschicht über dem Tiere bestand in ihrem äusseren etwa die Hälfte ausmachenden Teile aus Erde, Geröllen und einer Reihe grosser Steine, darunter, zu oberst, ein grosser eckiger, von ca. 2 m. Durchmesser, vulkanischer Herkunft. Diese Schicht kann nur entstanden sein durch den Absturz eines Teiles des daneben liegenden Abhanges. Infolge davon war sie auch vollständig frei von dem Menschen zugehörigen Resten.

Unter der nur aus Geröllen und einfacher Erde bestehenden Schicht war das ganze Skelett eingehüllt (Fig. 6) in eine dicke Feuerschicht die direkt über dem Leib und der Wirbelsäule gleichfalls etwa 50 cm. betrug. Sie war stellenweise vollständig schwarz, enthielt zahlreiche Klumpen von Kohle selbst, Stücke angebrannten Holzes, sowie ebenfalls harten rot gebrannten Lehmes. Diese Feuerschicht erstreckte sich nach hinten rund um das Becken bis zum Ende der Füsse und des Schwanzes. Angebranntes Holz wurde gleichfalls in der von den rechten Rippen entblössten Bauchhöhle an der Wirbelsäule gefunden.

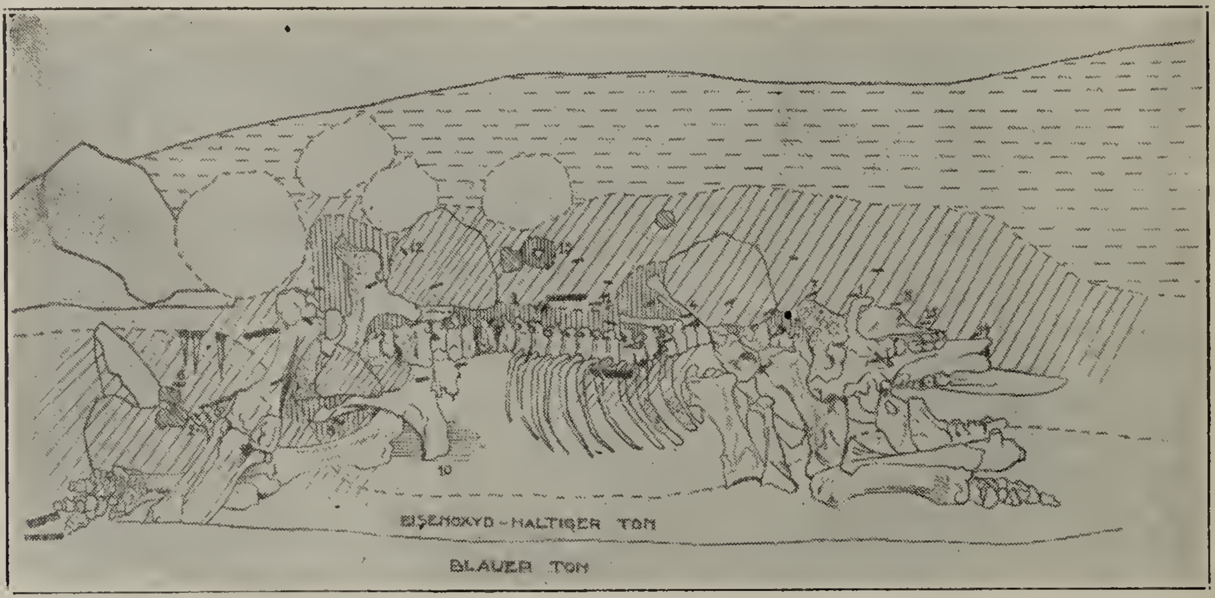


FIG. 6—DURCHSCHNITT DURCH DIE ERDSCHICHTEN AM FUNDORTE DES MASTODON

Das Feuer war über der oxydhaltigen Lehmschicht, die neben dem Körper des Tieres an allen Seiten emporgedrückt war, angefacht worden. Infolge davon war auch diese Lehmschicht an allen Seiten bis zu einer gewissen Tiefe vollständig hart und rot gebrannt, mehrere der Wirbel, besonders die mit hohen Rückenfortsätzen, in den weichen Lehm eingedrückt, durch das Feuer mit demselben bis zu einer Tiefe von 4 cm. vollständig verbacken. Rings um das Becken erreichte die harte rot gebrannte Lehmschicht sogar eine Dicke von 8 cm. Einzelne Teile dieser hart gebrannten Lehmschicht waren auch in die obere Feuerschicht über dem Tiere geraten. Innerhalb der Feuerschicht befanden sich auch eine Reihe von Steinen, in diesem Falle aber in direkter Beziehung zu dem Tiere (siehe Fig. 6).

Ein etwa 30 cm. im Durchmesser haltender abgerundeter Stein lag direkt über den Schulterblättern, und hatte sowol das rechte davon, wie auch mehrere Halswirbel gebrochen, zwei andere ähnliche mit 30 und 40 cm. Durchmesser, in der Nähe des Kreuzes, andere direkt auf dem Becken, und wieder andere in der Umgebung der Beine. Hinter dem linken Beine in einiger Höhe über der Basis befand sich gegenüber zwei zusammenstossenden Steinen ein anderer dreieckig kleinerer (von 15 cm. Durchmesser), der gewissermassen als Windschutz für das Feuer gegen Osten daneben aufgerichtet worden war. Ringsum natürlich eine Menge Kohle und Asche.

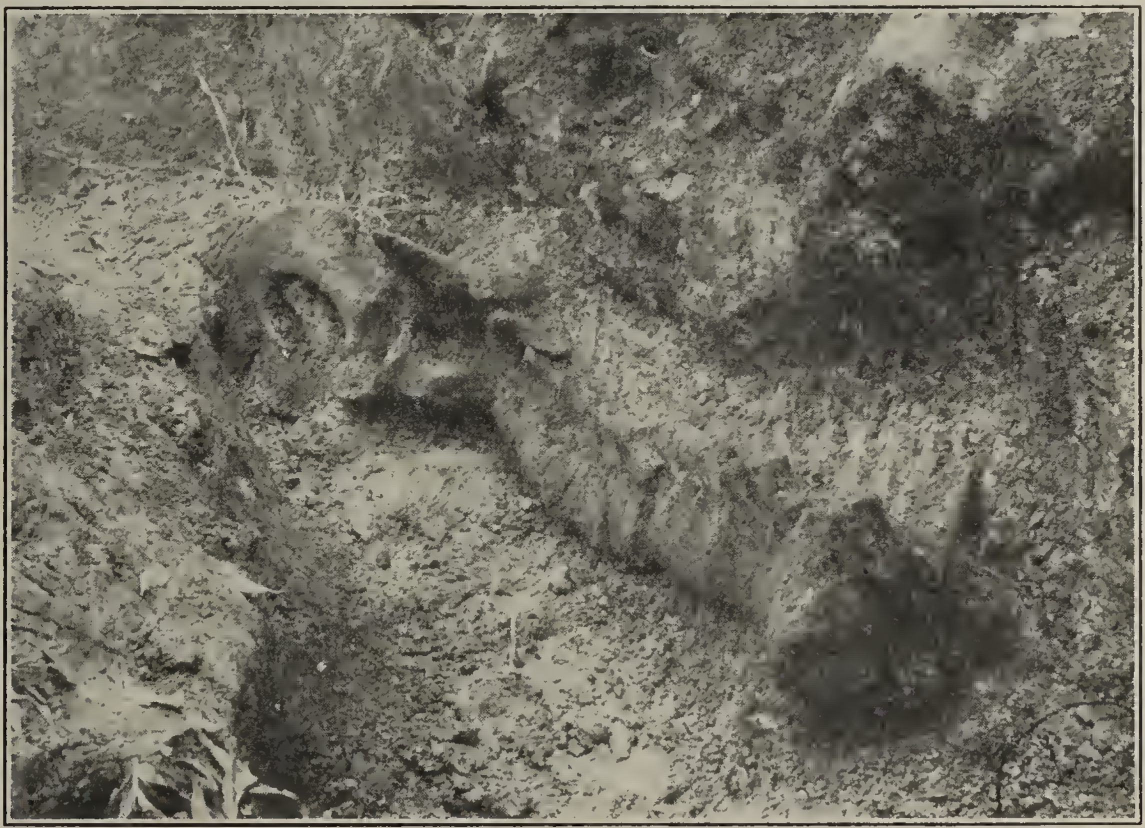


FIG. 7—DIE WIRBELSÄULE DES MASTODON

Noch ein anderer grösserer Stein fiel auf, von dreieckiger Gestalt, 1.30 m. Länge und 0.35 m. Breite, der mit der etwa 60 oder 70 cm. hervorragenden Spitze künstlich und absichtlich hinter dem Tiere in den Sumpf eingesetzt worden war. Eingebettet im Sumpfe daneben fanden sich mehrere 20 cm. dicke Hölzer. Die Feuerschicht erreichte alle diese Steine, alle unmittelbar das Tier umgebenden waren offenbar von Anfang an in diese eingehüllt gewesen.

Das Feuer hatte aber nicht nur die Reste des Tieres auf allen Seiten umgeben, sondern auch dessen Skelett an den verschiedensten Stellen beschädigt. Brandspuren am Skelett fanden sich an der Hinterseite des Schädels, an verschiedenen Seiten des Beckens, am rechten Fusse. Die Schwanzwirbel, dicht eingehüllt in eine harte rot gebrannte Schicht von Lehm, waren zum Teil verkohlt. Die letzten drei Wirbel fehlten, als verbrannt, sogar ganz. An ihrer Stelle gewahrte man nur graue verbrannte Erde. Über die Absichtlichkeit der Feueranmachung rund um den Schwanz konnten keine Zweifel entstehen. Ebenso war Feuer absichtlich in der Bauchhöhle angemacht worden. Verschiedene Knochen in derselben zeigten Spuren von Feuer. Einige der linken Rippen waren angekohlt, das Brustbein sogar vollständig verbrannt, jedoch in diesem Zustande erhalten. Man würde ratlos sein, zu vermuten, aus welchem Grunde an so verschiedenen Seiten des Körpers Feuer vom Menschen angezündet worden war, wenn nicht auch andere Reste von ihm überall in der Feuerschicht gefunden worden wären.

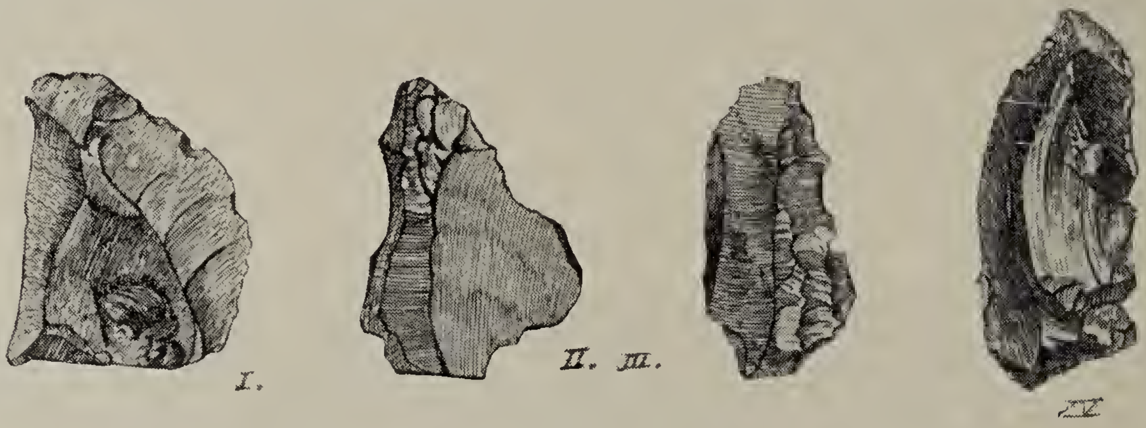


FIG. 8—GESCHLAGENE OBSIDIANE

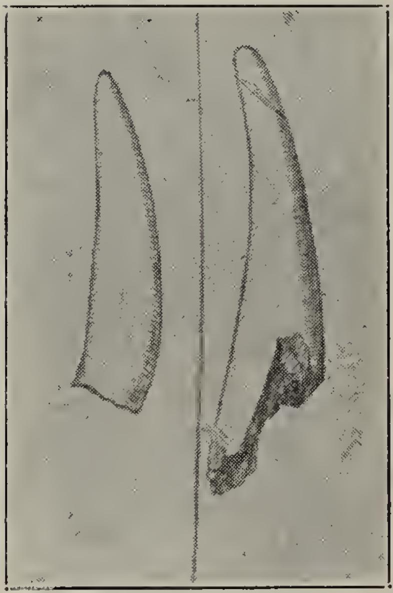


FIG. 9— HIRSCHHORNSPITZE: *a*, ALANGASÍ; *b*, ALAUSI

Zunächst vier geschlagene Stücke aus Obsidian, wahrscheinlich Pfeilspitzen (Fig. 8). Sie concentrirten sich alle um die höheren und oberen Teile des Körpers. Eine von ihnen lag in der Nähe des Kopfes, eine über dem siebenten Wirbel des Halses, eine an der linken Seite des Halses, und eine rechts in der Mittelgegend der Wirbelsäule. Es ist wol wahrscheinlich, dass sie von Angriffen des Menschen mit Pfeilen herrührten, aber doch vielleicht schwer entscheidbar, ob diese Angriffe stattgehabt hatten, ehe das Tier in dem Sumpfe versunken war, oder nachher.

Eine geschliffene kleine Spitze aus Hirschhorn (Fig. 9, a) wurde an der Basis des Tieres in der Nähe des linken Fusses gefunden.

Das allergrösste Interesse der Finder wurde jedoch erregt, durch etwa 150 Topfscherben von 3–15 cm. Durchmesser, die überall in der Feuerschicht zerstreut lagen, besonders aber das Skelett an verschiedenen Seiten deckten. Auch eingebrannt in den Lehm wurden einzelne derselben gefunden. Aus denselben liessen sich in keinem Falle grössere Stücke von Gefässen zusammensetzen. Doch ergab sich aus ihrer Form, dass sie teils Töpfen (mit oder ohne verdicktem Rand und flachem Boden), grösseren und kleineren Krügen (mit gewöhnlich geformtem oder längerem Halse, z. T. mit eng zusammenlaufendem Boden), tassenartigen und anderen Schalen, u. s. w., angehört hatten. Eine Anzahl von diesen ist auf der beigehenden Tafel (Fig. 10) abgebildet worden, mit Nummern, die, bezüglich ihrer Lage am Skelette, mit den in Fig. 6 angegebenen correspondieren. Natürlich erregten diese Tonscherben auch ein besonderes Interesse für die Bestimmung ihrer Typen.

Sie gehören zwei von einander ziemlich scharf gesonderten Klassen an, einer in der Qualität relativ rohen (Fig. 10, 4–15), und einer, die technisch hinter den besten südamerikanischen Gefässen ihrer Art vielleicht nur wenig zurücksteht (Fig. 10, 1–3). Doch konnte man auch an denen der ersten Klasse schon Fortschritte der technischen Bildung bemerken.

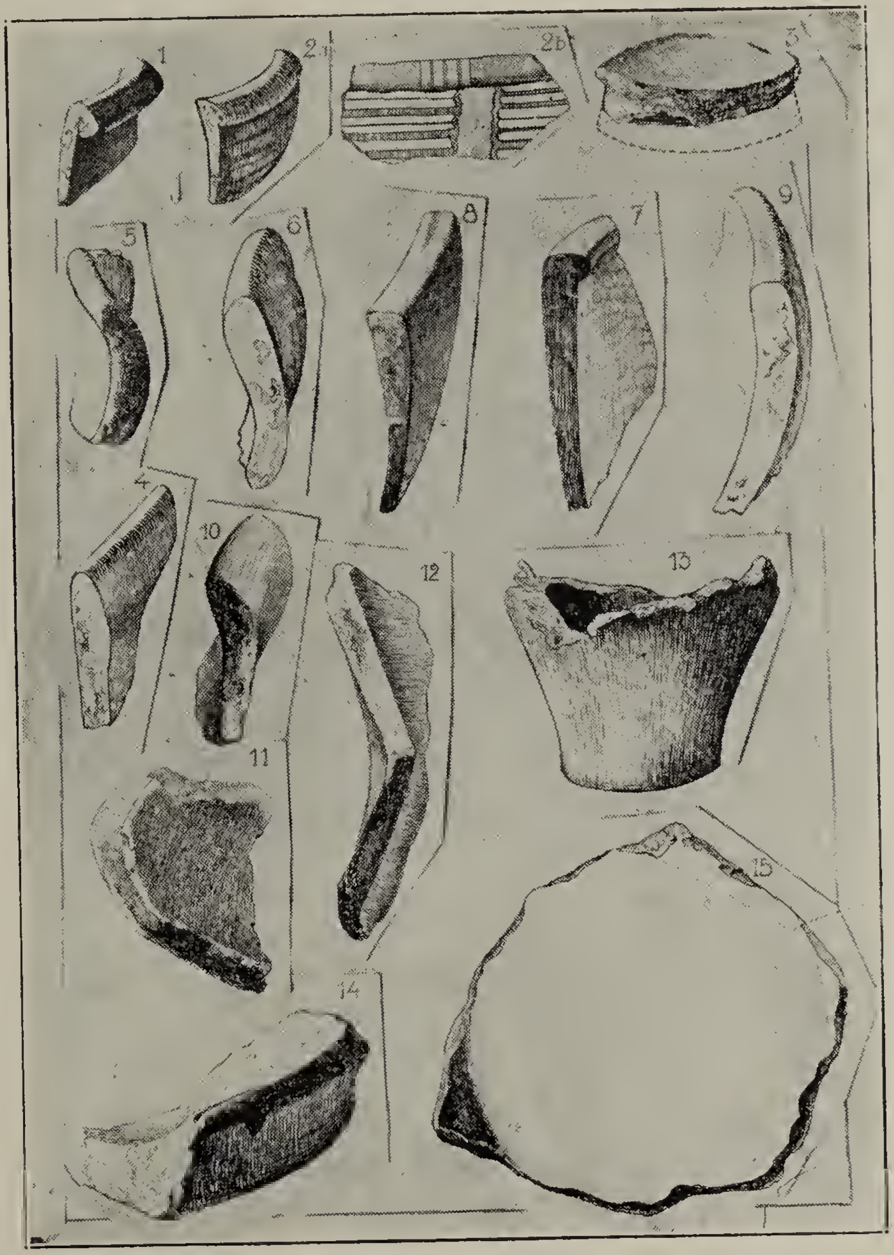


Fig. 10—topfscherben, gefunden mit dem mastodon von alangasí

Die erste rohere Klasse bestand aus Resten von Töpfen (Fig. 6–8, 14–15), und Krügen etwas variirender Form (Fig. 10, 5–10, 12–13); auch einzelne Reste von flachen Tellern (Fig. 10, 11) waren vertreten. Diese Art Scherben waren in einer Zahl von etwa 140 vorhanden. Die Wandungen dieser Gefässe waren 7–15 mm. dick gewesen, und hatten aus gewöhnlichem, vor der Bildung der Gefässe nur wenig gewaschenem und auch nicht weiter verbessertem Lehme bestanden. Der am Orte der Ausgrabung gefundene Lehm hätte für eine solche Art von Töpferei vollständig genügt. Die Gefässe waren in allen Fällen unvollkommen gebrannt gewesen. An der Aussenseite leidlich glatt, hatten sie z. T., wie meist die Krüge, eine leichte rote Tünchung von aussen erfahren. Einen dickeren, sorgfältig geglätteten roten Überzug gewahrt man gelegentlich an der Innenseite von Hälsen von Krügen, oder auch an der Oberseite von flachen Tellern. Die Scherben waren meist grösserer Art, wie es der Dicke der Wandungen der Gefässe besonders entsprach.

Von Gefässen der zweiten besseren Art waren nur etwa zwölf, meist kleinere Fragmente, erhalten. Technisch und auch der Form nach stammten diese Scherben von ganz anders gearteten Gefässen ab. Die Wandungen dieser Gefässe waren immer, z. T. sehr, dünn, bestanden aus gut mit Glimmer und anderen Materialen gemischtem Ton, und waren immer gut gebrannt gewesen. An der Innenseite der Wände gewahrte man in vielen Fällen dieselben besenartigen Striche, die auch schon bei zahlreichen Gefässen der feinen mayoiden Töpferei der ältesten Kultur von Cuenca als Besonderheit aufgefallen, und als solche vermerkt worden waren.[2] Eine feine dunkelgraue Tünche deckte in verschiedenen Fällen die Innenseite der Gefässe. Ihrer Form nach stammten sie teils von Töpfen mit geradem am Rande leicht verstärktem Halse (Fig. 10, 1), teils flach kugeligen Schalen mit umgebogen verstärktem Halse (Fig. 10, 2) ab. Der Boden war in den bekannten Fällen immer abgerundet, z. T. mit einem kleinen rahmenartigen Fusse versehen gewesen (Fig. 10, 3), wie er schalenartigen Gefässen verschiedener mayoider Kulturen, besonders derer von Carchi, eigen zu sein pflegt.[3] Einer der Scherben, von einer Schale stammend, war sogar mehrfarbig verziert. Auf dem roten Grunde des Tones, der an der Ornamentierung mit teilnahm, war das Gefäss weiss und schwarz, in abgemessenen Linien, anscheinend mit einer seine Seiten umgebenden Vogelfigur bemalt gewesen. Von dieser Figur ist auf dem einen noch vorhandenen Scherben die Zeichnung von sechs in Gruppen zu drei sich gegenüberstehenden Federn,—die am hinteren Ende der Figur sich gegenüberstehenden Flügelspitzen,—verhalten geblieben. Die ursprüngliche Zeichnung, die sich aus diesem Reste ergiebt, erinnert stark an die in mayoiden Stilen (Cuenca, und andere Gegenden) vielfach den Rand von Gefässen umgebende Zeichnung von ganzen Tieren, die Stilisierung der Federn an die in mayoiden Stilen Central- und Süd-Amerikas dafür übliche.

Was die bei einem Fusse des Tieres gefundene Hirschhornspitze betrifft, so gleicht sie formell durchaus einer anderen (Fig. 9, b) die unter den Resten eines etwa der Zeit von Tiahuanaco entsprechenden Grabfeldes in Alausí vorkam, und in dem Museum der Universidad Central von Ecuador verwahrt wird.

Der allgemeine Befund zur Zeit der Aufdeckung des Skelettes lässt keinen Zweifel an dem Anteil, den der Mensch, wie schon vorher, so auch in den Momenten seines Todes an seinem Loose genommen hatte, zu. Die auf dem Körper direkt aufliegenden gerundeten Steine rührten ganz ohne Zweifel auch schon vom Menschen her. Ihre Form, Grösse und Lage zeigen die zielvolle Absicht, das Tier mit diesen auf dasselbe geworfenen Steinen zu tödten. Wahrscheinlich war es dadurch überhaupt erst zu Fall gebracht worden. Ungewiss kann man darüber sein, ob die Steine von dem nahen Abhange auf das Tier geschleudert wurden, oder aus noch grösserer Nähe.

---

[2] Uhle, Max, Influencias Mayas en el Alto Ecuador, *Boletín de la Academia Nacional de Historia, Quito,* vol. 4, no. 10–11, pág. 6.

[3] Siehe Uhle, Las Ruinas de Cuasmal, *Anales de la Universidad Central, Quito,* 1928, tom. 40, no. 264, Tafeln.

Die später auf die Feuerschicht geladene Erd- und Steinschicht mag von einem natürlichen späteren Einsturz desselben nahen Abhanges herrühren.

Die Loslösung der rechten Rippen, die offenbar auch künstlich war, hatte wahrscheinlich auch den Zweck sie zu verbraten.

Die zahlreichen von Koch- und Sammelgefässen herrührenden Scherben stammen ohne Zweifel von den Gefässen her, die bei der Verkochung und Verbratung des Fleisches des Tieres am Orte benötigt waren.

Für den hinter dem Tiere mit der Spitze in den Boden gestecken langen Stein mit einer oberen 1.30 m. langen horizontalen Kante existiert die mögliche Vermutung, dass er benützt worden war zur Stütze von Hebeln (von denen vielleicht die im Sumpfe daneben gefundenen 20 cm. dicken Pfähle herrührten), die den Zweck hatten, damit das Becken des Tieres zu heben, um eventuell auch unter diesem zu kochen. Jedenfalls wurde das Becken in gebrochenem Zustande gefunden; unentschieden muss bleiben, ob der Bruch durch die darauf geworfenen Steine oder etwa durch eine solche Hebelwirkung erfolgte.

Über die ungefähre Zeit der Erlegung des Tieres kann kein Zweifel sein. Seinem Typus nach gehört es einer der jüngsten Arten von Mastodon an, die auf dem Boden von Süd Amerika lebten. Von Doktor Franz Spillmann als eine Subspecies von Mastodon Ayora bezeichnet (ein Schädel davon aus der Schlucht von Chalán bei Riobamba im Museum der Universität), übertrifft es im Schädel durch seine noch grössere Entwickelung in der Höhe um Grade den anderen, war also noch jünger als dieser, und viel mehr noch als andere z. T. recht primitive südamerikanische Formen.

Auch schon der Zustand der Knochen des Mastodon selbst deutet auf kein sehr hohes Alter. Diese waren noch kaum àls fossilisiert zu betrachten. In der Höhle seines Leibes wurden noch Klumpen des natürlichen Kotes, botanisch noch jezt bestimmbare Blätter, gefunden.

Die Art seiner Verschüttung nur durch eine auf das Skelett abgestürzte Erdmasse trägt gleichfalls keinen Charakter irgend welchen geologischen Alters an sich.

Bekannt ist, dass der Gebrauch von Töpferei in Süd Amerika erst nach dem frühesten Anfang der centralamerikanischen Civilisationen begann. Die mit dem Mastodon gefundenen Tonscherben besserer Art entsprachen nach Technik, Form und vorkommender Bemalung schon dem Charakter der Töpferei, der von den ersten höheren Civilisationen des ecuatorianischen Hochlandes bekannt ist.

Mit diesen müssen sie also gleichzeitig gewesen sein. Da nun jene ersten höheren Civilisationen aus den verschiedensten Gründen in die Anfänge unserer Zeitrechnung (eventuell zweites und drittes Jahrhundert) zu verlegen sind, so kann auch die Zeit der Menschen, die, im Besitz solcher Töpfe, das Mastodon erlegten, keine andere gewesen sein.

Die Analogie einer als Gerät dienenden Hirschhornspitze mit einer jüngeren von Alausí bestätigt die Beziehungen, die die mit dem Mastodon gleichzeitigen Menschen von Alangasí auch zu jüngeren südamerikanischen Kulturen hatten.

Man benutzte aber das Fleisch des erlegten Tieres am Orte, da man die Beute vielleicht wegen ihrer Lage im Sumpfe, vielleicht auch wegen seiner Grösse, nicht anders verwenden konnte.

Man hat gelegentlich die Frage, weshalb das Mastodon in Süd Amerika ausstarb, mit einer Gegenfrage, weshalb es nicht schon früher ausstarb, beantwortet. Das Mastodon erlag in Süd Amerika nicht einer Veränderung der klimatischen Bedingungen, die sicher vor kaum 1500–1700 Jahren nicht viel anders also heute waren. Doch es erlag, wie wol elephantenartige Tiere in der Welt auch sonst (Afrika, Europa, u. s. w.) dem zu seiner Verfolgung nach und nach besser ausgerüsteten Menschen. Sein Überleben bis zu frühen Jahrhunderten unserer Zeitrechnung im Inneren Ecuadors scheint auch hier darauf hinzudeuten, dass vor dem Beginn der Kulturen, mag man diesen so weit zurückrücken wie man will, der ursprünglich paläolithische Mensch des Erdteils nur noch nicht im Stande war, solchen Riesentieren der Schöpfung den Garaus zu machen.

Universidad Central del Ecuador
Quito.

ANDEAN CIVILIZATION: SOME PROBLEMS OF PERUVIAN ARCHAEOLOGY

By Julio C. Tello

THE Cordillera of the Andes determines the predominant physical character of the geographical environment of Peru. It rises parallel to the littoral of the Pacific and divides, in the south, into two branches which unite in the junction of Vilcanota; in the center, into three branches which unite in the junction of Pasco, and, in the north, also in three (the western one of which, in its main section, divides in two) which unite in the junction of Loja. The first subdivision marks the boundaries of the highland or basin of Titicaca, and the second, those of the inter-Andean basins or valleys of the Urubamba, Apurimac, and Mantaro rivers, while the third, bounds the inter-Andean basins or valleys of the Huallaga, the Marañon, and the Santa (Map I).

Small lateral ranges extend like buttresses from each side of the Andes, reaching, on the east, the vast plain of the Amazon forest and on the west the lowlands of the coast. The extension of the Cordillera determines the geographic aspect of the coast; plains and deserts bounded by mountains. There are three mountainous regions; that of La Brea in the Department of Piura in the north, of the Department of Ancash and Lima in the center, and that of the Province of Camana in the south. There are also three plains; one which extends from the Valley of Tumbes to that of Chimu; another from the Valley of Wuarko to that of Acarí; and a third from the Valley of Ocoña to beyond Tacna.

For each of the many varieties of Andean topography, there is a corresponding climate. In general, the Andes divide the territory into three great regions; the trans-Andean, or that of the forest plains, with its tropical climate; the Andean, cold and temperate; and that of the littoral, mildly hot or sub-tropical. In the forest, rains are abundant and almost continuous; in the Sierra they are annual and less abundant and, along the coast, scarce and periodical.

The waters flowing down the western slope of the Cordillera reach the ocean by way of narrow ravines in the mountainous regions and more or less extensive valleys in the plains. Those of the eastern slopes, in similar manner, find their way to the tributaries of the Amazon.

The Sierra region, due to the differences in altitude, also presents a diversity of climates which vary from the tropical of the deep inter-Andean valleys and ravines to the arctic of the Cordillera. The aborigines distinguished between these zones, giving a special name to each, calling the cold Cordilleras and high table lands *Suni* or *Puna*, the temperate zones of the ravines and valleys *Keshwa*, while the hot zones, whether of the forest plains, the deep Andean ravines, or the low valleys of the coast, were called *Yunka*.

When the Spaniards conquered Peru, they found the aborigines occupying the territory in its entirety; the Puna, the Sierra, the Coast, and the Forest region. With the exception of the Forest tribes, they were densely populated nations, organized and controlled by a central government which had its seat at Cuzco.

The wealth or economic resources of this people—calculated at ten million inhabitants—lay, aside from the extraordinarily developed agriculture, in fishing on the coast and stock-raising in the Sierra. Stock-raising and agriculture constituted the foundation of their civilization; the stock-raising was based on the llama and alpaca, obtained by domesticating the wild native animals, of the Highlands, and the agriculture was based on numerous grains and food roots, obtained by domesticating the wild native plants, of the Sierra and the Forest regions.

The llama and the alpaca were utilized both by the inhabitants of the Highlands and those of the plains and ravines, and similarly the territorial propagation of the edible fruits, grains, and roots had no other limitations than those imposed by the climate. Quinua and various tubers, such as the potato, *oca, olluco,* and *mishwa* were cultivated in the Keshwa lands, artificially prepared and irrigated, as well as in the unimproved lands of the ravines contiguous to the Punas, or on the hills of the coast, watered only by rain. The sweet potato, *yuca, yacon achira,* peanut, squash, *arracacha,* pepper, lima bean, corn, cotton, *lagenas,* and coca were cultivated in all the Yunka lands, trans-Andean, inter-Andean, cis-Andean, and coastal. Thus the Peruvians raised domesticated animals and cultivated domesticated plants throughout the land. These were such transcendent attainments that, whether acquired in their own territory or imported, they constituted the fundamental factors which determined the outstanding characteristics and the high grade of civilization reached by this people.

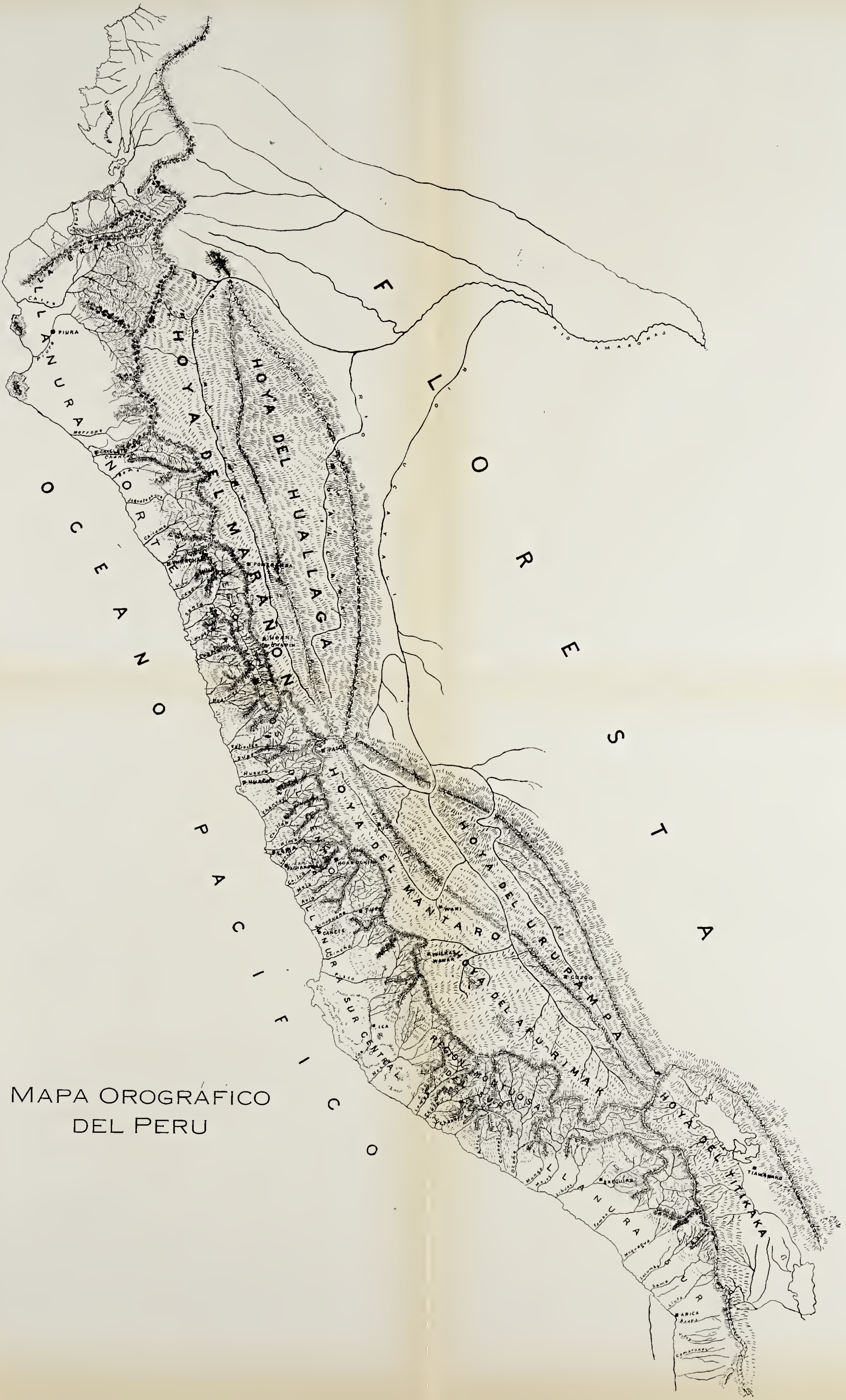
It is logical to think that agriculture and stock-raising assured the welfare and stimulated the growth of the population in proportion to the greater or lesser extension of the lands possessed and the facilities which the geographic environment offered for their benefit. Man found in the extensive pasture lands of the Andes, the appropriate means for the development of stock-raising, and apart from his livestock, he had, in these high regions, the benefit of indigenous agricultural products of the temperate regions, and, even in certain places, of the products of tropical lands easily accessible by means of the natural trails of the ravines, by which the Indians descend even today, conducting their animals for commercial purposes. Also, in the trans-Andean valleys of almost tropical climate, man found the territory appropriate for the cultivation of edible plants, belonging to this environment and even to these places; and the Indians, in order to secure these products in exchange, descended from the highlands, carrying the meat, wool, and agricultural products of their region. On the coast the natural trails marked by the transverse ravines which descend towards the Pacific favored not only the commerce of the inhabitants of the highlands with those of the plains, but also the formation within a single valley of intimately related communities; a more intimate cognation perhaps than that which could exist with the other inhabitants living near the coast, with whom but slight communication was had through the fishermen and from whom in most cases they were separated by coastal mountains and sandy desert plains.

nations, organized and controlled by a central government which had its seat at Cuzco.

The wealth or economic resources of this people—calculated at ten million inhabitants—lay, aside from the extraordinarily developed agriculture, in fishing on the coast and stock-raising in the Sierra. Stock-raising and agriculture constituted the foundation of their civilization; the stock-raising was based on the llama and alpaca, obtained by domesticating the wild native animals, of the Highlands, and the agriculture was based on numerous grains and food roots, obtained by domesticating the wild native plants, of the Sierra and the Forest regions.

The llama and the alpaca were utilized both by the inhabitants of the Highlands and those of the plains and ravines, and similarly the territorial propagation of the edible fruits, grains, and roots had no other limitations than those imposed by the climate. Quinua and various tubers, such as the potato, *oca, olluco,* and *mishwa* were cultivated in the Keshwa lands, artificially prepared and irrigated, as well as in the unimproved lands of the ravines contiguous to the Punas, or on the hills of the coast, watered only by rain. The sweet potato, *yuca, yacon achira,* peanut, squash, *arracacha,* pepper, lima bean, corn, cotton, *lagenas,* and coca were cultivated in all the Yunka lands, trans-Andean, inter-Andean, cis-Andean, and coastal. Thus the Peruvians raised domesticated animals and cultivated domesticated plants throughout the land. These were such transcendent attainments that, whether acquired in their own territory or imported, they constituted the fundamental factors which determined the outstanding characteristics and the high grade of civilization reached by this people.

It is logical to think that agriculture and stock-raising assured the welfare and stimulated the growth of the population in proportion to the greater or lesser extension of the lands possessed and the facilities which the geographic environment offered for their benefit. Man found in the extensive pasture lands of the Andes, the appropriate means for the development of stock-raising, and apart from his livestock, he had, in these high regions, the benefit of indigenous agricultural products of the temperate regions, and, even in certain places, of the products of tropical lands easily accessible by means of the natural trails of the ravines, by which the Indians descend even today, conducting their animals for commercial purposes. Also, in the trans-Andean valleys of almost tropical climate, man found the territory appropriate for the cultivation of edible plants, belonging to this environment and even to these places; and the Indians, in order to secure these products in exchange, descended from the highlands, carrying the meat, wool, and agricultural products of their region. On the coast the natural trails marked by the transverse ravines which descend towards the Pacific favored not only the commerce of the inhabitants of the highlands with those of the plains, but also the formation within a single valley of intimately related communities; a more intimate cognation perhaps than that which could exist with the other inhabitants living near the coast, with whom but slight communication was had through the fishermen and from whom in most cases they were separated by coastal mountains and sandy desert plains.


OCEANO PACIFICO
FLORESTA
HOYA DEL MARAÑON
HOYA DEL HUALLAGA
HOYA DEL MANTARO
HOYA DEL URUPAMPA
HOYA DEL APURIMAK
HOYA DEL TITIKAKA
LLANURA NORTE
LLANURA CENTRAL
LLANURA SUR
REGION MONTUOSA
RIO AMAZONAS
RIO UCAYALI
PIURA
PASCO
ICA
CUZCO
AREQUIPA
ARICA

MAPA OROGRÁFICO
DEL PERU

The geographical environment of Peru leads one to think that the primitive population, on occupying the territory of Peru, whether it came by sea, by the high routes of the Cordillera, or ascended from the forest plains, spread itself over the entire territory and managed to utilize all its advantages, traversing it continuously in every direction. In their migrations, they undoubtedly utilized at first the natural trails, the ravines, and defiles, whether to ascend to the Punas, to descend from these to the plains, or to cross the lofty Cordilleras. Later, impelled by necessity or genius, they utilized the trails which they constructed through the high table lands and mountains, or through the sandy plains and mesas of the coastal region.

The investigator, in the presence of this historic-geographic panorama and the wealth of historical and archaeological testimony, feels impelled to learn whether the authors of the early civilization originally arrived in Peru, bringing with them an advanced culture; whether they arrived in a savage state, with scarcely the rudiments of an incipient culture; or whether, having reached in this land, a certain degree of culture, they were influenced by other more advanced cultures. In other words, the problem would consist in finding out, first, whether the Peruvian civilizations are the product of the modifications or degeneration of high immigrant cultures; in other words, whether they are exotic; or, on the other hand, whether they are the product of the development and differentiation of primitive cultures which arrived in Peru in an incipient state; that is to say, whether they are autocthonous.

Primarily, our efforts must be directed towards the recognition of those high cultures from which the existing cultures in Peru were derived. Secondly, they must be employed in knowing and defining the cultures in relation to their geographic environment, to discover their genesis and point out the evolutionary process of their development.

In the beginning of the archaeological investigations—based on the reports of the primitive writers and chroniclers of the Indians, and on the monumental megalithic sources found in the Andean region—it was supposed that, previous to the Inca Empire, there had existed another empire of equal or greater power, its greatest exponent being the ruins of Tiahuanaco. Later, thanks principally to the work of Max Uhle, it was established that the empire or civilization of Tiahuanaco, if indeed it had expanded throughout the Sierra and the Littoral before the Inca, was not the most ancient of Peru, for, preceding it, other cultures had flourished on the Peruvian coast, and even in the Sierra. These, proceeding from other more advanced culture centers of the continent, were, in their turn, preceded by rudimentary cultures of fisher-folk whose remains were found in Arica, Ancón, and Supe. It is thus that the following cultures succeeded one another in chronological order:—

1. That of the primitive fishermen of the coast
2. Those called protoids; proto-Chimu; proto-Lima; proto-Nasca; and Chavin
3. That of Tiahuanaco, and those derived from it, or Epigonals
4. The local cultures of the coast; Chimú, Chancay, Ica or Chincha, and Atacameña
5. The Inca

All of which might be reduced to cultures of the Littoral and Andean cultures, the latter derived from the former and they in turn proceeding from other cultural centers of the continent.

It is venturesome to think that a primitive population of coast fishermen should have abandoned their habitual task of fishing for the cultivation of plants, native of the Forest, or the Sierra, especially when, together with the archaeological remains of these primitive people, are found agricultural products which lead one to suppose that if they were not tillers of the soil, at least these already existed in nearby places which can be no other than the contiguous valleys which communicated with those of the Sierra. It is more reasonable to think that the savage of the forest, to whom is attributed the knowledge of certain primitive forms of agriculture should have learned in the trans-Andean valleys the cultivation of certain plants such as the *yuca,* the sweet potato, corn, *lagena,* squash, lima bean, etc., and that he should have propagated these in the inter-Andean Yunka lands; inter-Andean, cis-Andean, and the coastal valleys. And perhaps it is more logical to think that the Andean, still in a low stage of culture, or possessing knowledge of a rudimentary agriculture, may, in the course of the search for game and food for his flock, have multiplied throughout the Andean region, domesticating the indigenous animals and plants, and, after acquiring an appreciable degree of culture in that healthful and stimulating geographic environment, descended to and utilized the lowlands which, in general, are hot and unhealthful. In the forested lowlands flourished various endemic parasitic diseases, as goiter, or *coto* and leishmaniosis as well as such parasitic diseases of the digestive system as anquilostomasis, dysentery, and others. And in the lower Andean valleys and ravines of the coast are found such diseases as verrugas, the leishmaniosis, and malaria which can be conquered only when man acquires immunity, after a long adaptation to the environment; all of which presupposes the existence of a dense population in other parts. The mortal agents which besiege man are more numerous in the lowlands than in the highlands. To take advantage of the lowlands, perhaps it was necessary to acquire experience in the highlands. Furthermore, the hypothesis relative to the genesis of civilization in the highlands, and its later propagation in the lowlands, is strengthened if one takes into account that the Punas, which are most excellent centers for stock-raising, form an almost unbroken stretch throughout the entire length of the Cordillera from Titicaca to Loja. The Sierra constituted in ancient Peru one of the most important sources of economic wealth. The Indians lived in organized villages, on the summits of the hills contiguous to the Punas, from which, as also from the Keshwa ravines, they obtained their subsistence. It is for this reason that the shrines and *pakarinas* were always found on the summits of the hills, or at the foot of the Cordilleras, and all tradition unanimously agrees on these Cordilleras as the *locus geni* of the Indians.

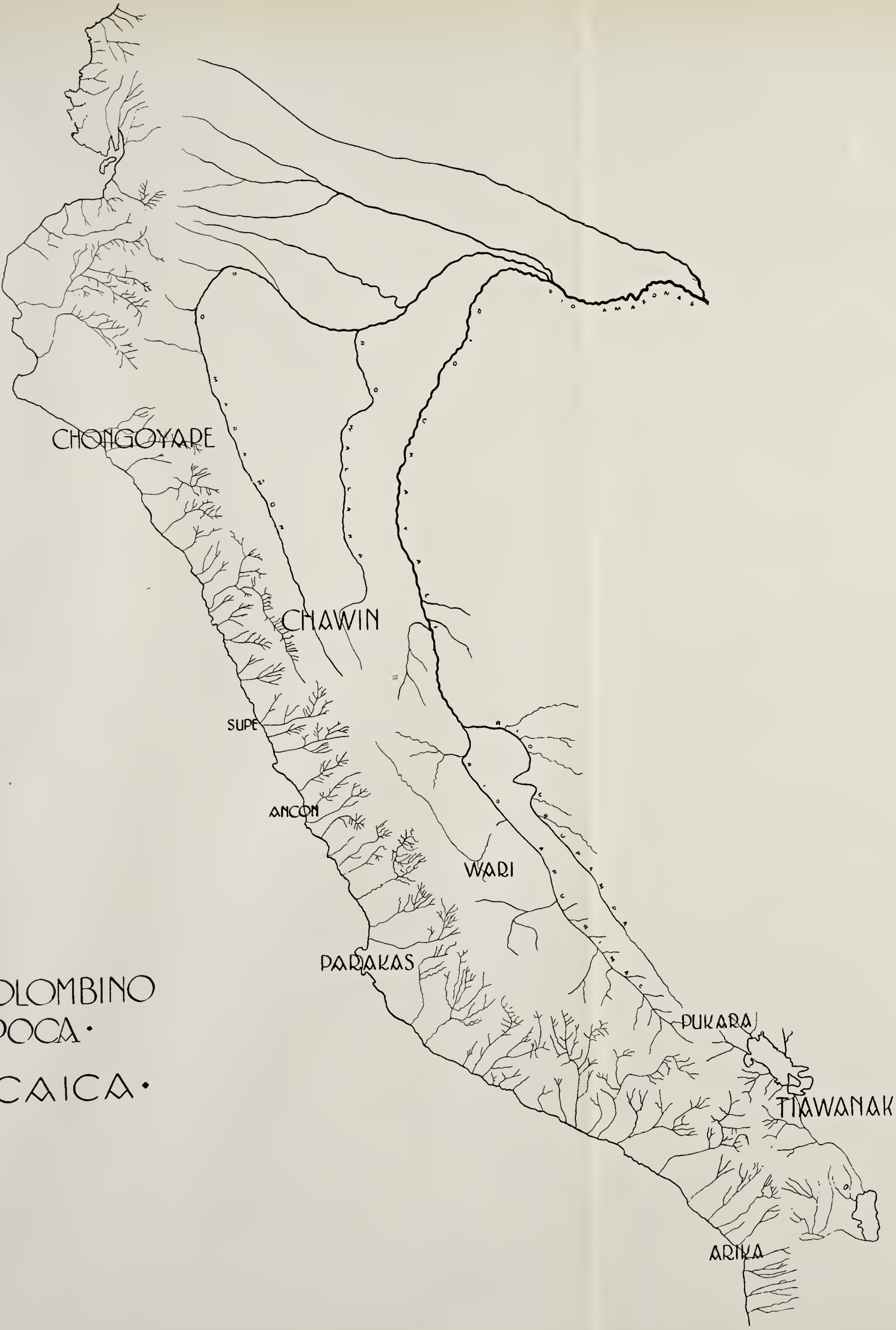
The cultivated lowlands belonged to the families or *ayllus,* but the highlands were communal. The Indian following his flocks could traverse the entire Andean region. The shepherd was, therefore, perhaps one of the first propagators of culture. Remains of corrals or enclosures of very ancient aspect are found everywhere and reveal a great development of stock-raising in those times. And in the contiguous lowlands the remains of terraced fields still exist in which, as at present in many places, were cultivated, quinua, *tarwi,* potatoes and other products which required only the rain-water and the fertilizer from the stock.

PERU-PRECOLOMBINC
· I- EPOCA ·

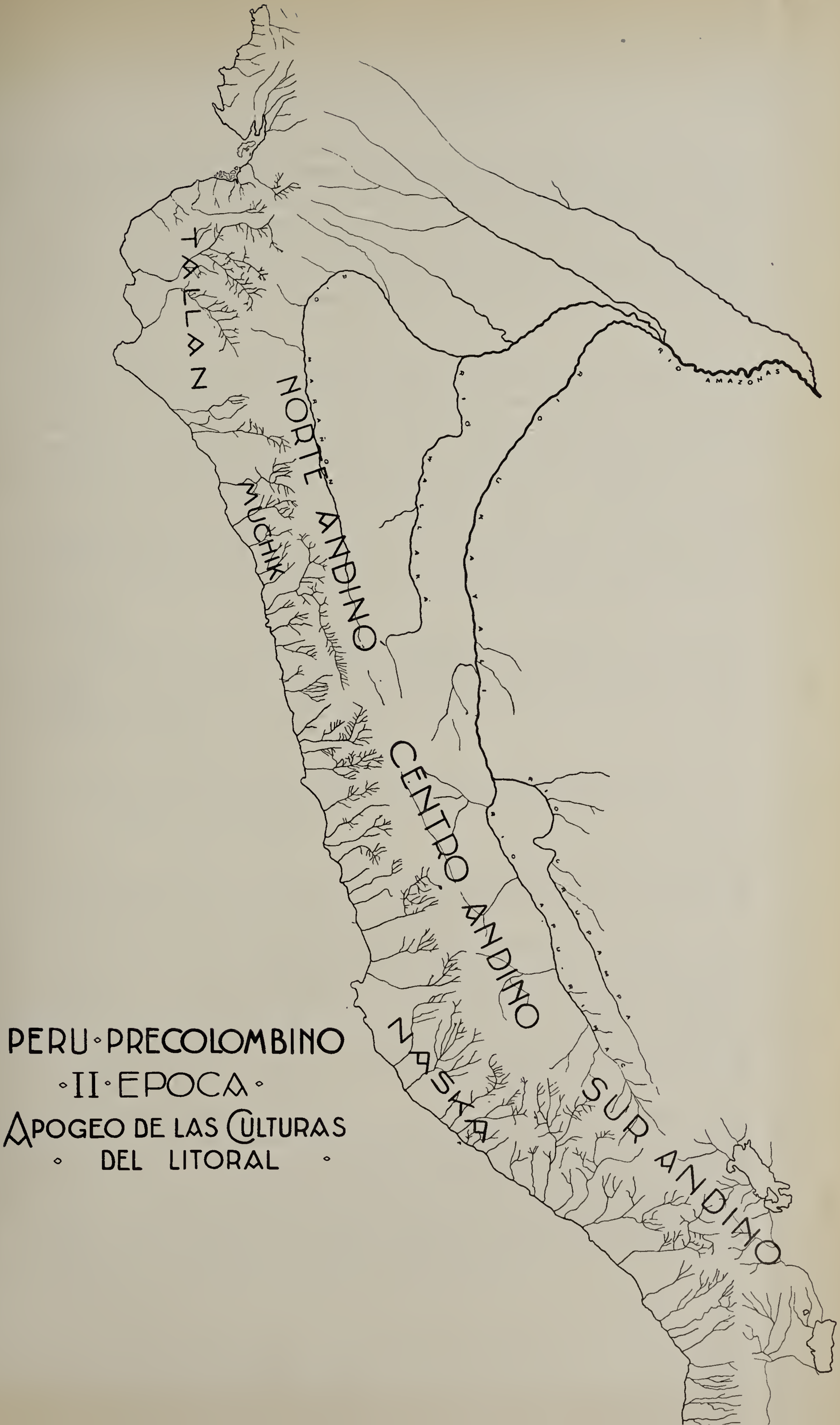
· ARCAICA ·

It is venturesome to think that a primitive population of coast fishermen should have abandoned their habitual task of fishing for the cultivation of plants, native of the Forest, or the Sierra, especially when, together with the archaeological remains of these primitive people, are found agricultural products which lead one to suppose that if they were not tillers of the soil, at least these already existed in nearby places which can be no other than the contiguous valleys which communicated with those of the Sierra. It is more reasonable to think that the savage of the forest, to whom is attributed the knowledge of certain primitive forms of agriculture should have learned in the trans-Andean valleys the cultivation of certain plants such as the *yuca,* the sweet potato, corn, *lagena,* squash, lima bean, etc., and that he should have propagated these in the inter-Andean Yunka lands; inter-Andean, cis-Andean, and the coastal valleys. And perhaps it is more logical to think that the Andean, still in a low stage of culture, or possessing knowledge of a rudimentary agriculture, may, in the course of the search for game and food for his flock, have multiplied throughout the Andean region, domesticating the indigenous animals and plants, and, after acquiring an appreciable degree of culture in that healthful and stimulating geographic environment, descended to and utilized the lowlands which, in general, are hot and unhealthful. In the forested lowlands flourished various endemic parasitic diseases, as goiter, or *coto* and leishmaniosis as well as such parasitic diseases of the digestive system as anquilostomasis, dysentery, and others. And in the lower Andean valleys and ravines of the coast are found such diseases as verrugas, the leishmaniosis, and malaria which can be conquered only when man acquires immunity, after a long adaptation to the environment; all of which presupposes the existence of a dense population in other parts. The mortal agents which besiege man are more numerous in the lowlands than in the highlands. To take advantage of the lowlands, perhaps it was necessary to acquire experience in the highlands. Furthermore, the hypothesis relative to the genesis of civilization in the highlands, and its later propagation in the lowlands, is strengthened if one takes into account that the Punas, which are most excellent centers for stock-raising, form an almost unbroken stretch throughout the entire length of the Cordillera from Titicaca to Loja. The Sierra constituted in ancient Peru one of the most important sources of economic wealth. The Indians lived in organized villages, on the summits of the hills contiguous to the Punas, from which, as also from the Keshwa ravines, they obtained their subsistence. It is for this reason that the shrines and *pakarinas* were always found on the summits of the hills, or at the foot of the Cordilleras, and all tradition unanimously agrees on these Cordilleras as the *locus geni* of the Indians.

The cultivated lowlands belonged to the families or *ayllus,* but the highlands were communal. The Indian following his flocks could traverse the entire Andean region. The shepherd was, therefore, perhaps one of the first propagators of culture. Remains of corrals or enclosures of very ancient aspect are found everywhere and reveal a great development of stock-raising in those times. And in the contiguous lowlands the remains of terraced fields still exist in which, as at present in many places, were cultivated, quinua, *tarwi,* potatoes and other products which required only the rain-water and the fertilizer from the stock.


CHONGOYAPE
CHAWIN
SUPE
ANCON
WARI
PARAKAS
PUKARA
TIAWANAK
ARIKA
RIO AMAZONAS
RIO MARAÑON
RIO HUALLAGA
RIO UCAYALI
RIO APURIMAC

PERU-PRECOLOMBINO
· I- EPOCA ·
· ARCAICA ·



PERU · PRECOLOMBINO
· II · EPOCA ·
APOGEO DE LAS CULTURAS
· DEL LITORAL ·

TALLAN
NORTE ANDINO
MUCHIK
CENTRO ANDINO
NASKA
SUR ANDINO
RIO AMAZONAS
MARAÑON
RIO HUALLAGA
RIO UCAYALI

The solution of these problems depends largely upon the study of the archaeological testimony. This is of three kinds: first, remains which still exist in all this territory and have not yet been properly studied; second, that which has been excavated by inexpert persons and is found scattered in museums and private collections; and third, that which has been excavated and studied scientifically. The first constitutes the most important source for future investigation; the second cannot be studied except in the light of knowledge contributed by the third.

During the past few years, thanks to the aid lent by the Peruvian Government, a museum has been established in Lima, El Museo de Arqueologia Peruana, which contains nearly all of the known private collections in the country, amounting to some tens of thousands of pieces. Archaeological explorations and excavations have also been undertaken with a view to studying, classifying, and exhibiting these collections and satisfactory results have been obtained.

In this work of systematizing archaeological data, the investigations have been directed with a view to defining the characteristics of the known cultures, determining their area of propagation, and establishing their relation one to another—first, within the Peruvian area, in order to compare them later with the neighboring or distant cultures, and to establish the existing differences or links.

The study of the archaeological literature of Peru, and the experience acquired in the Museum, and in the explorations, have afforded me the opportunity of verifying the existence of three great stages or epochs in the Pre-Columbian history of Peru, as follows:—

1. The archaic Andean epoch or megalithic
2. The epoch of the development and differentiation of the cultures of the Coast
3. The epoch of the great tribal confederation which culminated with the Inca Confederation of Tawantinsuyu

These three great stages embrace a great variety of cultures and styles corresponding to the development and differentiation of only one civilization, nurtured in the Andes, the Andean civilization.

The first, to judge by the extensive distribution of the cultures which it includes and by the high degree of development reached, especially in the megalithic and textile arts, seems to have flourished for a greater number of centuries than the later epochs. In it two periods are evident: one represented by the archaic culture of the Callejon de Huaylas and the other represented by Chavin and by Chongoyape and Paracas, which are Andean cultures propagated to the coast (Map II).

The second epoch corresponds to the second stage of the Andean culture which here acquires special characteristics which are uniform in their various manifestations. It descends to the plains through the cis-Andean ravines and co-exists with and influences the Muchik and Nasca cultures derived from the Archaic. There is comprised then in this epoch, the Andean culture, properly so called, with Tiahuanaco as its highest exponent, and the great local cultures, Muchik in the north and Nasca in the south (Map III).

The third epoch—probably shorter and more recent than the former, to judge by the greater scarcity and freshness of its archaeological remains—corresponds to the stage of the development and organization of the tribal confederations which culminated in the Great Confederation of the Inca or Tawantin Suyu. To this epoch belong the Chimú, Kuis Manko, Chek'e Manko, Chincha, Konchukos, Wankas, Rukanas, Chankas, Keshwas, Kollas, and Kollawas confederations, all of which were brought under the central government of Cuzco shortly before the Spanish conquest (Map IV).

I will point out, for the present, only the general characteristics of the cultures comprised in the first, because I consider them of importance for the better understanding of the intricate archaeological problems of Peru, and because I desire to call the attention of the Americanists to certain facts which in my opinion have not been sufficiently considered.

On exploring, in 1919, the northern Andean region, I had an opportunity to verify the existence of two kinds of archaeological remains, corresponding to two distinct cultures. I noted that these cultures were related, but separated from each other by a considerable period of time. To the more ancient, I gave the name of Andean Archaic and, to the one which followed it, that of Andean, properly so-called. The latter is the well-known culture of the little stone towers, *chaukallas* or *chullpas,* the architectural style of which was pointed out by Tschudi in 1844, in so far as the villages of the center of Peru are concerned. During my explorations, I found the remains of polychrome ceramics of the Tiahuanaco type in these structures, the area of propagation of which is very extensive, mixed at times with ceramics of the Inca type. In the same archaeological area I found ruins of villages, cemeteries, temples, stone sculptures, and ceramics of a special type which possessed a well-defined archaeological unity both in style and epoch. Because of its magnitude, its lack of contact with known recent cultures, and other diverse indications of its being deep-rooted in the territory, I was obliged to attribute a greater antiquity to this culture.

The Andean Archaic culture is defined:—

1. By a special style and type of architecture in its structures, villages, tombs, and shrines or temples
2. By a special predominant style in its stone sculptures and pottery, both as regards their ornamentation and their form

VILLAGES

The villages of this epoch are similar to one another. They occupy lofty and strategic places and are defended by fortified walls and precipices. Villages of this type are numerous in the north Andean area, where they are found strung along the crests of the lateral or buttress ranges. Some of them, as for example, Kiske in Nepeña, and Calaveras in Casma, occupy almost the extreme end of the western spurs, and others, such as the five fortified villages of Pumpa, reach almost to the end of one of the eastern spurs. Many of them arouse admiration, not only because of their perpendicular and impregnable sites, but also because of the enormous effort which their construction must have demanded.

It would be difficult to explain the existence of these villages erected in rough and inhospitable places near the cordilleras—which must have sheltered a dense

The third epoch—probably shorter and more recent than the former, to judge by the greater scarcity and freshness of its archaeological remains—corresponds to the stage of the development and organization of the tribal confederations which culminated in the Great Confederation of the Inca or Tawantin Suyu. To this epoch belong the Chimú, Kuis Manko, Chek'e Manko, Chincha, Konchukos, Wankas, Rukanas, Chankas, Keshwas, Kollas, and Kollawas confederations, all of which were brought under the central government of Cuzco shortly before the Spanish conquest (Map IV).

I will point out, for the present, only the general characteristics of the cultures comprised in the first, because I consider them of importance for the better understanding of the intricate archaeological problems of Peru, and because I desire to call the attention of the Americanists to certain facts which in my opinion have not been sufficiently considered.

On exploring, in 1919, the northern Andean region, I had an opportunity to verify the existence of two kinds of archaeological remains, corresponding to two distinct cultures. I noted that these cultures were related, but separated from each other by a considerable period of time. To the more ancient, I gave the name of Andean Archaic and, to the one which followed it, that of Andean, properly so-called. The latter is the well-known culture of the little stone towers, *chaukallas* or *chullpas*, the architectural style of which was pointed out by Tschudi in 1844, in so far as the villages of the center of Peru are concerned. During my explorations, I found the remains of polychrome ceramics of the Tiahuanaco type in these structures, the area of propagation of which is very extensive, mixed at times with ceramics of the Inca type. In the same archaeological area I found ruins of villages, cemeteries, temples, stone sculptures, and ceramics of a special type which possessed a well-defined archaeological unity both in style and epoch. Because of its magnitude, its lack of contact with known recent cultures, and other diverse indications of its being deep-rooted in the territory, I was obliged to attribute a greater antiquity to this culture.

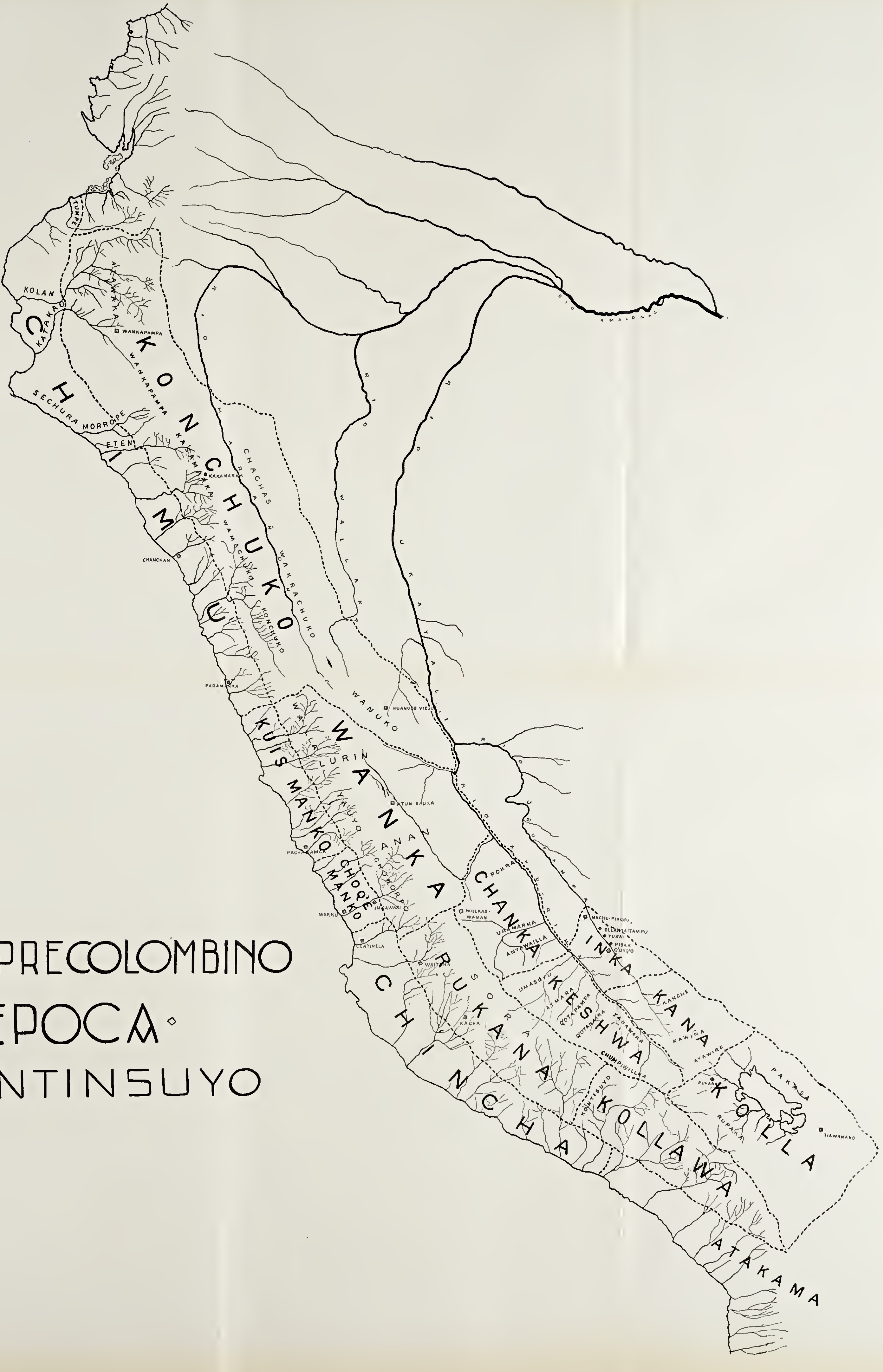
The Andean Archaic culture is defined:—

1. By a special style and type of architecture in its structures, villages, tombs, and shrines or temples
2. By a special predominant style in its stone sculptures and pottery, both as regards their ornamentation and their form

VILLAGES

The villages of this epoch are similar to one another. They occupy lofty and strategic places and are defended by fortified walls and precipices. Villages of this type are numerous in the north Andean area, where they are found strung along the crests of the lateral or buttress ranges. Some of them, as for example, Kiske in Nepeña, and Calaveras in Casma, occupy almost the extreme end of the western spurs, and others, such as the five fortified villages of Pumpa, reach almost to the end of one of the eastern spurs. Many of them arouse admiration, not only because of their perpendicular and impregnable sites, but also because of the enormous effort which their construction must have demanded.

It would be difficult to explain the existence of these villages erected in rough and inhospitable places near the cordilleras—which must have sheltered a dense


RIO AMAZONAS
RIO MARAÑON
RIO UKAYALI
RIO APURIMAC
TUMPE
KOLAN
KATAKAO
AWAKA
WANKAPAMPA
WANKAPAMPA
SECHURA
MORROPE
ETEN
CHIMU
KONCHUKO
KAXAMARKA
KAXAMARKA
CHACHAS
WAKRACHUKO
WAMACHUKO
KONCHUKO
CHANCHAN
PARAMANKA
WANUKO
HUANUCO VIEJO
WALLA
KUIS MANKO
WANKA
LURIN
YAUYO
ATUN XAUXA
ANAN
PACHAKAMAK
CHOQE MANKO
CHOKORPO
INKAWASI
WARKU
CENTINELA
WAITARA
CHINCHA
RUKANA
SORA
KACHA
CHANKA
POKRA
WILLKAS-WAMAN
URAMARKA
ANTAWAILLA
KESHWA
UMASUYU
AYMARA
QOTAPAMPA
QOTANAIRA
YANAWARA
CHUMPIWILLKA
KONTISUYO
INKA
MACHU-PIKCHU
OLLANTAITAMPU
YUKAI
PISAK
Q'OSQ'O
KANA
KANCHE
KAWIÑA
AYAWIRE
PUKARA
KOLLA
PAKASA
RUPAKA
TIAWANAKO
KOLLAWA
ATAKAMA

PERÚ ◇ PRECOLOMBINO

◇ III EPOCA ◇

TAWANTINSUYO

population to judge by the vast area they occupied—were it not for the contiguous terraced fields, which rise step by step from the bottoms of the ravines to the tops of the mountains, revealing an extraordinary mastery of nature by man.

The methodical study of these monuments, will permit us in the future to learn something more about their antiquity, the life, customs, social organizations, and the arts of the originators of the Archaic culture.

To give an approximate idea of the plan of these villages, of the predominating type of buildings, and systems of fortifications, I summarize the principal aspects of one of them, which is interesting for its simplicity and its good state of preservation.

In May, 1919, I visited the ruins of Yayno. To reach them, starting from Pomabamba, one descends for a short stretch in the direction of Yanamayo as far as the Wilka Ragra estate, then turns to the west and ascends a very steep incline, broken here and there by level spaces or short terraces, until arriving at the summit where the ruins are found (Fig. 1). Yayno lies three and a half leagues to the southwest of Pomabamba and five thousand meters above sea-level. The hill gives the impression of a gigantic pyramid, formed by lofty terraces which rise step by step, and crowned by a tower-like building. The general view is enhanced by the large buildings of the lower part; the walls seemed covered with mosaic because of the contrast between the clear, brilliant, smooth faces of the large stones, arranged in horizontal rows, and the small opaque stones which pile up around and between them. On the north side, the hill rises in a sheer precipice in the upper part, while in the lower it forms a gradual incline. On the other sides the pronounced incline of the upper part diminishes gently and gradually until at the height of five hundred meters it reaches an ample mesa or table land.

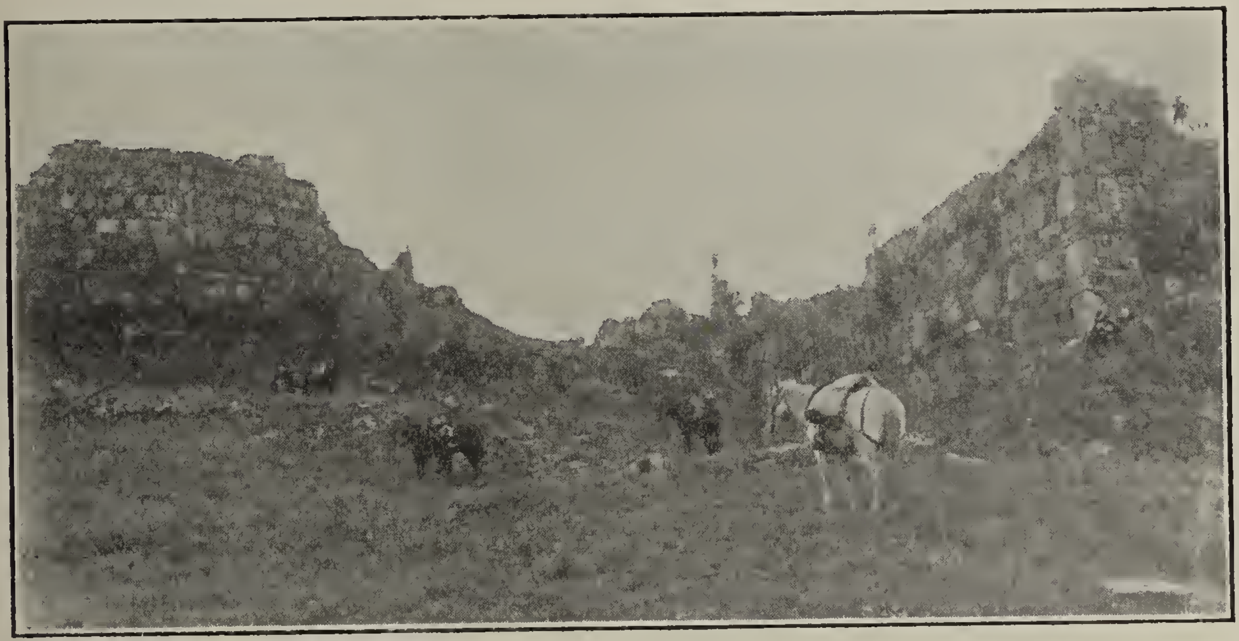


FIG. 1—YAYNO-POMABAMBA: RIGHT, WAIRONA OR COMMUNAL HOUSE; LEFT, PIRWA OR GRANARY

The terraces are high. In the lower part, principally towards the southwest side, they form extensive platforms on which are found some of the most important buildings. Farther up, they succeed one another on four levels which completely surround the hill. The terraces are fortified by walls perforated near their foundations with small openings, to allow the passage of the rain waters. The terraces rise irregularly because the salient portions or crests of the rocks have been utilized for defense. The lower portion of the village is also defended by a moat or trench, which is three or four meters wide by three or four meters deep, and surrounds the hill, excepting in the places fortified by projecting rocks.

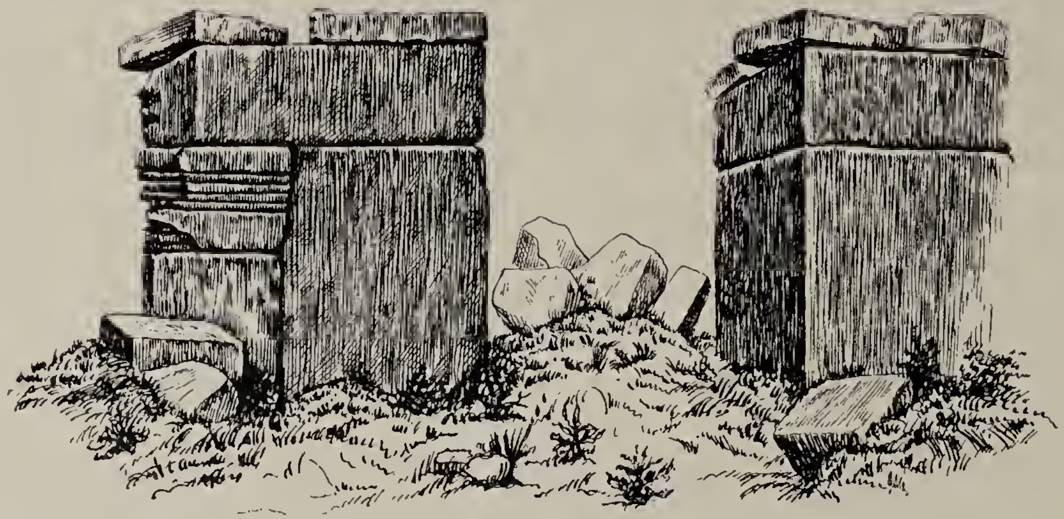


Fig. 2—YAYNO: GATE, OPENING ON ONE OF THE TERRACES

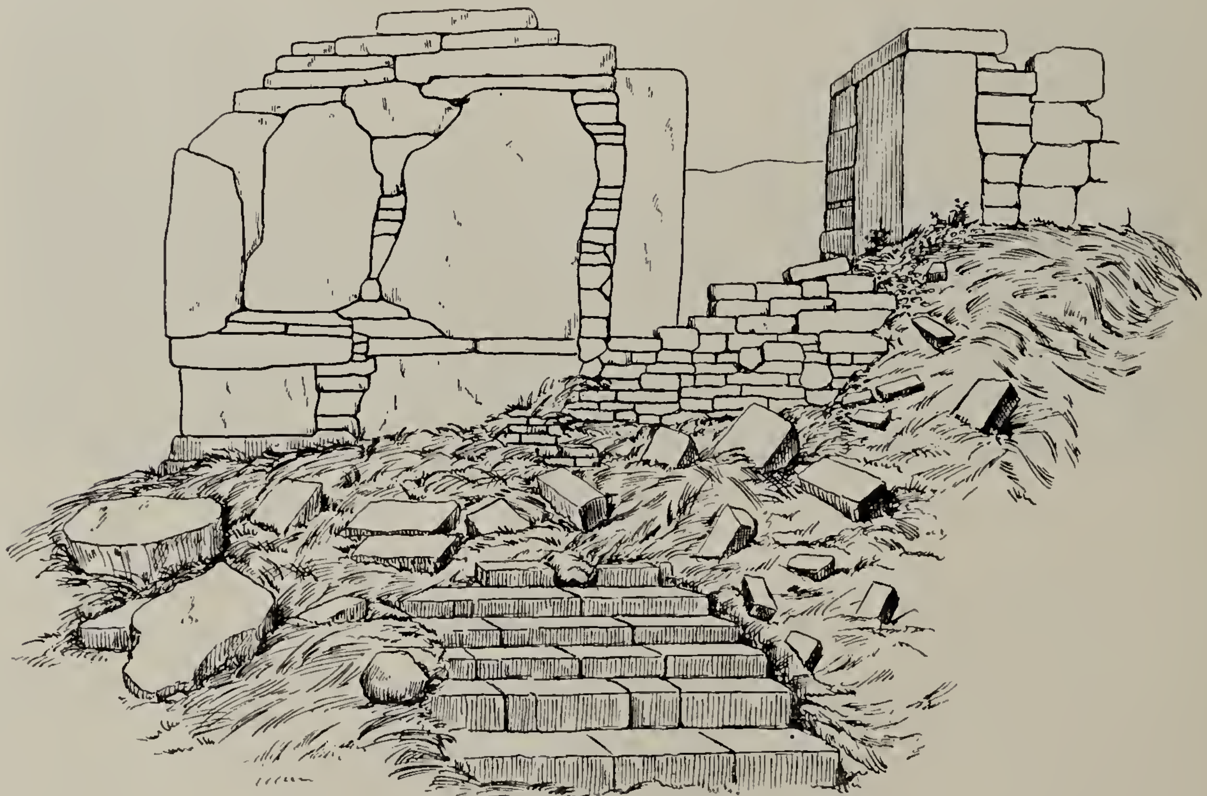


Fig. 3—YAYNO: STAIRS AND GATE NEAR TOP OF HILL

The walls have doorways the frames of which are formed by great stones (Fig. 2) and are arranged in an almost vertical line on the south side. A long stone stairway which passes through these doorways serves as a means of ascent to the summit (Fig. 3).

On the terraces are found the remains of small walls which may have been those of dwellings, the roofs of which were probably made of straw, for there are no stones here which could have served for this purpose.

The most important buildings of this village are:—

1. The *Wairona,* or communal house which occupies the lowest platform towards the southeast and is almost square, eighty meters on a side. Its walls rise to a height of eight meters and within are found remains of small buildings.

2. The *Pirwa,* or granary. This is found a little to the west of the preceding and on a more elevated terrace. It is cylindrical, measuring ten meters in diameter, the walls rising to a height of twelve meters. Contiguous to this building and towards the west, lie the remains of other smaller cylindrical structures, which seemed to have served as storehouses for food. There is no evidence of entrances to these buildings.

3. A building after the manner of *Inti Watana,* which crowns the hill. It is formed by three concentric circular walls, the intervening space divided into various compartments. The central wall bounds the space where the remains of other similar compartments are found (Fig. 4).

In these ruins have been found stone objects such as hatchets and clubs, and also fragments of the ordinary ceramics of the Archaic type.

TOMBS, SHRINES, AND TEMPLES

Near the villages, or in distant high places, perhaps *pak'arinas,* are found other interesting structures. They appear in diverse forms and their function has not yet been determined. Some of these buildings seem to be sepulchers, others are storehouses or depositories for food, while still others have a manifest religious character.

All these structures can be reduced to the following types:—

1. Holes, wells, and chambers, excavated in hard granite rock, provided with covers of hewn stone.
2. Holes or wells, excavated in loose earth, with the sides walled up with stone, and with covers of unhewn stone.
3. Subterranean chambers of stone constructed for the protection of a box of hewn stone provided with a cover.
4. More or less ample chambers containing niches or cells.
5. Multiple chambers intercommunicating by means of little windows or galleries, arranged on one level, or superimposed on two or more, forming small pyramids, provided with outside stairs.
6. Large terraced pyramids, with interior apartments and galleries with one or more buildings on the top, and with outside stairs.

1. In the year 1873, Antonio Raimondi had already called attention to the existence of these important structures and of many others in the Department of Ancash. Some of them greatly aroused his interest and he described them minutely. Referring to the stone sepulchers which are found in the District of Sihuas in the Province of Pomabamba, he says:—

> "On an elevated mesa between the Jocos estate and another called Quilca, are found some strange sepulchers of the ancient Peruvians. These sepulchers have been excavated in the very

limestone rock which forms the foundation underlying a small hill. They take the form of small cylindrical wells of a meter and a half in diameter and a little less than a meter in depth. These wells are found in communication with four other cavities, arranged around the principal one in such manner as to form a cross. In each of these cavities many human bones are found. The cylindrical wells have a circular opening, covered by a stone, cut and hewn for the purpose. The other four cavities as we have said, communicate with the central one but do not have an opening on the surface of the ground. The top of the central well is covered with earth and stone to hide the entrance.''[1]

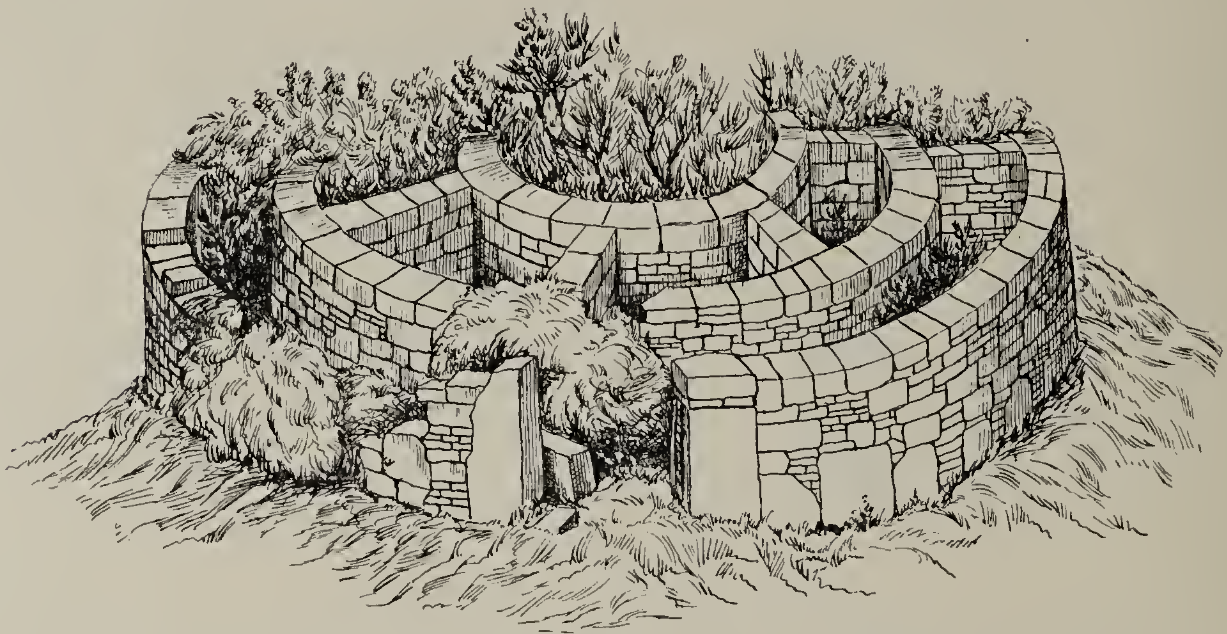
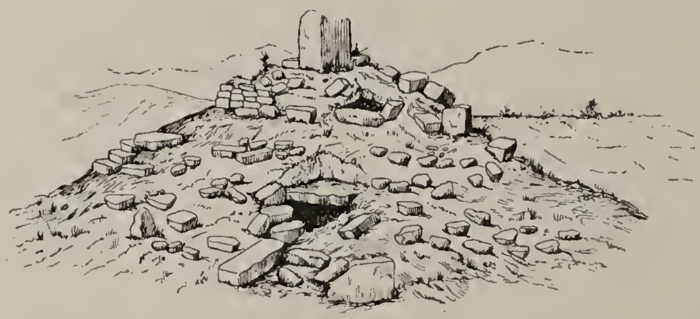


FIG. 4—INTI WATANA, TOP OF HILL, YAYNO



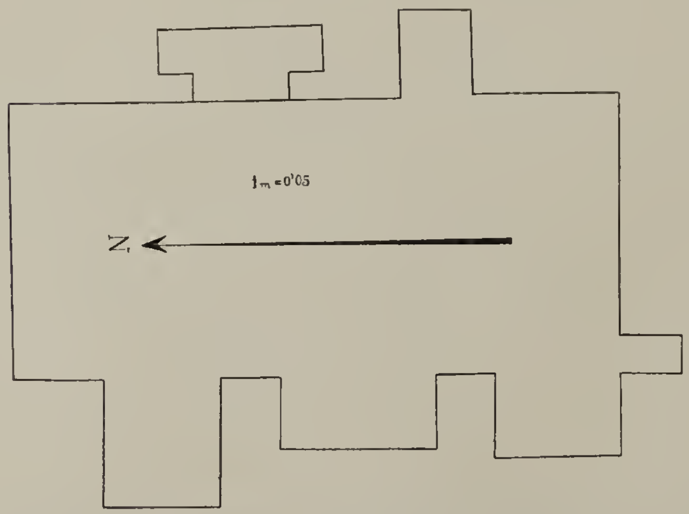


FIG. 5—KATAK-RECUAY: SUBTERRANEAN CHAMBER NO. 118

Excavated rocks forming basins of greater or lesser depths are also found in other regions, especially in Tupe in the Province of Yauyos, and in the higher parts of the Yana-Wanka estate, on the road from Cajamarca to Hualgayoc.

---

[1] Raimondi, Antonio, *El Departamento de Ancash*, Lima, 1873, p. 204.

Some basins seem to have been utilized as mortars, others as depositories for food, and still others undoubtedly as sepulchers, because human bones have been found in them.

2. In the same area as the great subterranean chambers which are found principally in the Callejon de Huaylas, to which we will refer later, are found wells of from a meter to a meter and a half in depth, and less than a meter in diameter. I had the opportunity of examining three of these wells which had recently been opened in the ruins of Kopa, situated a short distance from Carhuaz. In one of them I found the remains of human bones almost pulverized, and examples of a very primitive ceramic art, which had been left by the explorers. These ceramic objects are found today in the museum of the University of San Marcos, and are of the well-known style of Callejon or of Recuay. The wells have stone and mud walls. Their form is approximately elliptical and they are situated near a building of the Archaic type, which rises above the surface of the ground.

In other ruins of villages corresponding to this epoch, and even to the second epoch, I have seen wells similar to these which have given me the impression of *Pirwas* or granaries and not of sepulchers.

3. The construction of the third type offers special interest. I have not had an opportunity to study them, but in different parts of the Department of Ancash, I have seen stone boxes of various forms and dimensions showing diverse grades of ability in their hewing. Some are hewn from one solid block and some from two or more pieces.

In the State of La Merced (Aija) near the river of the same name, in Caraz, near Tumchu Kayko, in the hospital of Huaraz, and especially in Piscobamba, as well as in many other places, I have seen complete stone boxes, some provided with covers and others incomplete, consisting of stone frames, which seemed to be parts of a large box formed by placing these pieces one above the other. In all these places the natives still remember the discovery and the transportation of these stones from the nearby ruins. Raimondi calls them sepulchers and classifies them as truly monumental. He says, regarding one of them:—

> "At the west of the fortifications of Sipa (District of Pomabamba) in the highlands of the mineral estate of Pasacancha, some ridges or mounds are found whose surface, covered with a scant vegetation would not lead one to suspect that it could hide such precious monuments. Some perpendicular stones, scattered here and there without any plan whatever, provoked the curiosity of the inhabitants of the place (in the year 1859) and having removed the earth they found at a depth of a little more than one foot, a great stone more than three and a half meters long by three meters wide and more than fifty centimeters thick with the upper surface slightly rounded. Continuing the excavation, to discover what might be below, it was found that the two edges of the stone rested upon two small walls, also constructed of stone, serving as a roof for another stone of cubic form, a meter and a half in dimension, which was completely buried, the upper surface being less than a meter below the roof stone. The cubic stone had a square cavity a meter twenty in depth, and eighty centimeters square, and in the top, flush with the surface and resting on a supporting ledge, was fitted another stone which served as a cover. . . .
>
> In the quadrangular cavity, no human remains were found, but around the stone, at the corners were found other small stone-covered cavities containing some bones, together with finely wrought objects of gold and silver. . . . Other stone boxes of various and much simpler forms were found, among which one was in the shape of an egg divided into two parts, one of which

contained the cavity in which to place the body, while the other part, resting on top, served merely as a cover. Several of these sepulchers have something of a stone wall around them and in this are two or three small canals superimposed on different levels, the purpose of which was undoubtedly that of collecting any water that filtered in, thus preventing its penetrating into the central part."

4. The fourth type of chamber is the commonest and most abundant, especially in the Callejon de Huaylas. The chambers are subterranean and on the surface there is nothing to suggest their existence. The ground appears level, covered with crops, under which they lie. One sees piles of stones, both large and small, some of them long and prismatic, perpendicular after the manner of obelisks, and others emerging from the surface; at other times mounds of greater or less height, and of pyramid form, appear on the surface, inside or outside the patios or plazas which are formed by lines of great perpendicular stone, similar to the enclosure of Kalasasaya in Tiahuanaco.

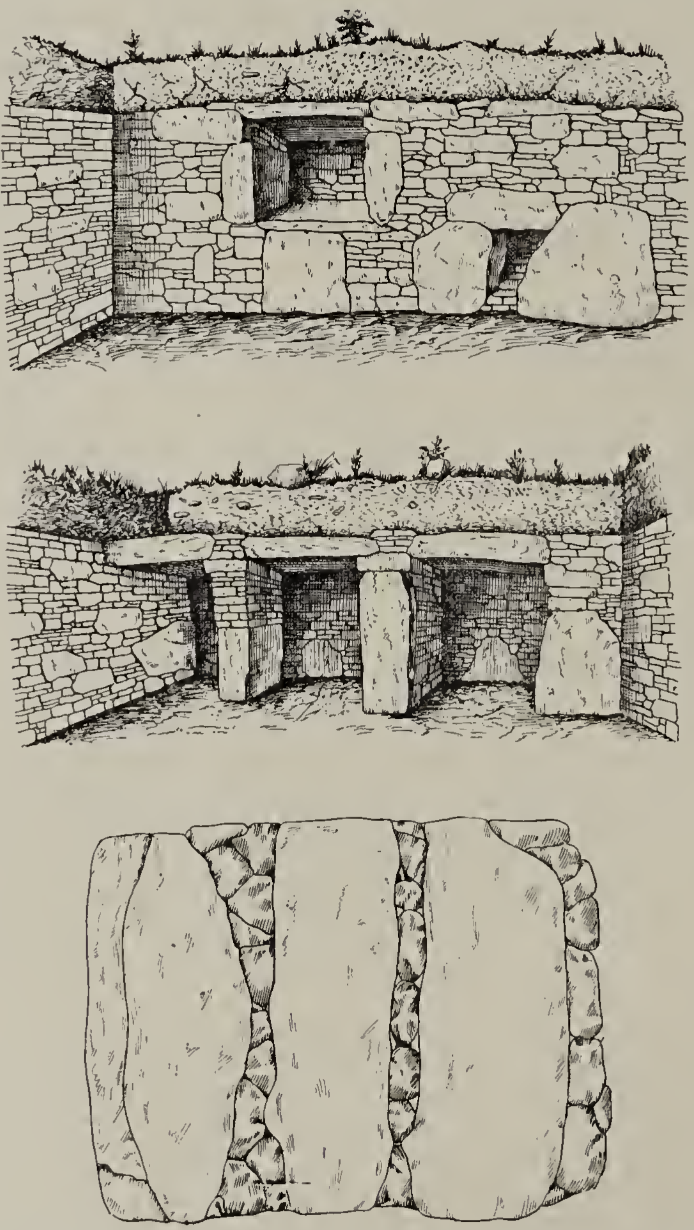


Fig. 6—KATAK: EAST VIEW, WEST VIEW, AND ROOF OF SUBTERRANEAN CHAMBER NO. 118

These subterranean chambers consist principally of a more or less spacious rectangular habitation or hall, in whose walls are found niches of different sizes and situated at various levels, with windows or small rectangular doorways which lead through galleries to the outside, or connect one chamber with another. The chambers lie on one, two, or more levels, in the last case rising from without, in the form of truncated, terraced pyramids, with stairs which lead to an upper platform, where the remains of the most important buildings are generally found.

The walls of these chambers are constructed of great blocks of stone, set vertically as foundations or columns, on which rests the stone forming the roof. As is common in this type of construction the intervening spaces are filled in with small stones carefully piled up and arranged in such a way, with the plain surface towards the habitation, that the walls are solid and uniformly upright and smooth.

One of the best illustrations of this type of structure, is that offered by the subterranean chambers of Katak, from which Don Agustin Icaza excavated the collection of ceramic objects of Recuay, which formed part of the Macedo Collection, at present found in the Museum für Volkerkunde of Berlin. In Katak, I have counted one hundred forty-eight of these subterranean chambers, of which No. 118 is one of the simplest and most typical (Fig. 5). It is found near Katak Creek, which flows at the north. On the surface, the stone ground covered with vegetation presents a prominence of conical form about two meters high, which has the appearance of a natural rise of ground (Fig. 6). But upon raising one of the large flagstones, one enters a habitation lying from north to south, which has the form of a rectangle and measures 3.65 by 1.67 meters.

The north wall is hidden by landslides. In the south wall, towards the southwest, is a small niche with a depth of thirty-six centimeters and width of forty-two. The west wall has three compartments, or cells, each one of which has a height of 1.50 meters. In the east wall is a cell forty-two by sixty-five centimeters, and forty-five centimeters deep, as also a rectangular window a meter from the ground level leading into a room. The roof is formed by three large stones, about two meters long by one meter wide. The floor of the chamber is of soft earth and no remains of fire, bones, or ceramics are found there.

The object of these buildings has not yet been satisfactorily ascertained. The natives affirm that bodies and ceramics have been extracted from them. Nevertheless, I have not found in Katak nor in the subterranean chambers of Gecosh, Castillopampa, or Wari-raxa, any of these archaeological elements. Rodrigo Hernandez Principe, who in the second decade of the seventeenth century was in charge of the extirpation of the idolatry of the Indians in this region, refers to these subterranean chambers where he found stone idols and mummies which he extracted and destroyed. Nevertheless, one cannot base, on this report alone, the conclusion that all the subterranean chambers are sepulchers, for, apart from the fact that the human remains were scant in the few chambers in which they were found, one must take into account the custom of the Indians, preserved many years after the Conquest, of burying in the dwelling of their ancestors. Some of these chambers are so large, that they give one the impression of dwellings or perhaps better, of depositories for food.

5. It is relatively easier to recognize the object or function of the buildings grouped in the fifth type, because within them, or nearby, are generally found idols, statues of human beings or animals, stelae, obelisks, and other stones carved

with figures representing mythological beings. Because of their size, I consider them shrines or temples.

The shrines are small structures, some of which rise at the center of the area of the subterranean chambers, and others at the center or side of the enclosures of rectangular or circular form of the Kalasasaya type. Some, as for instance, Illa Wain (House of Lightning) situated a short distance from the town of Aija, must have been a species of dolmen formed by great upright stones which sustained other transverse ones, to judge by their present arrangement. And in the same place, or near it, I found stone statues of warriors and women, which certainly formed part of these buildings. Near Huaraz are found two other magnificent models of this kind of shrine: Kilkay and Wilka Wain (Fig. 7).

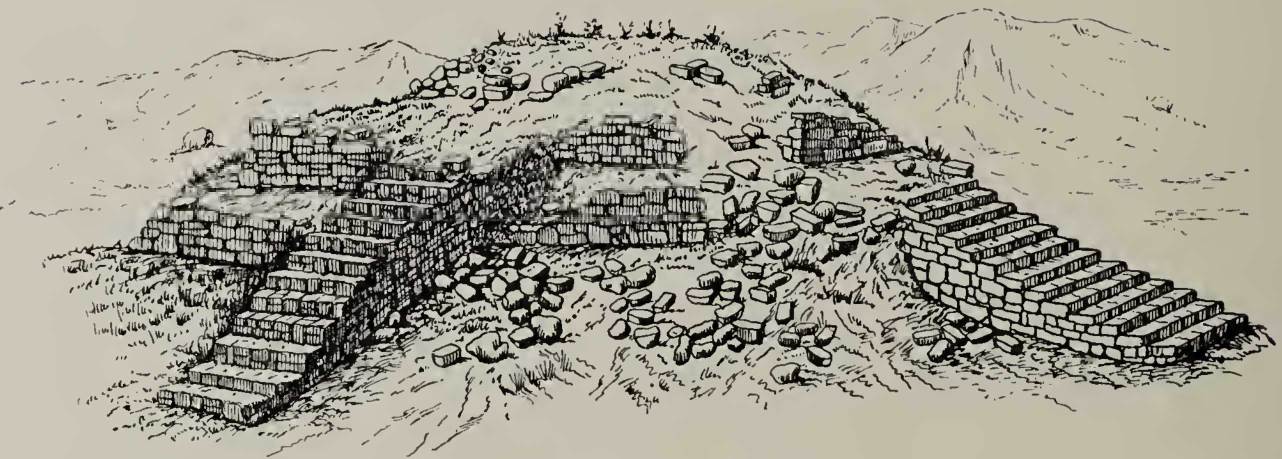


FIG. 7—WILKA-WAIN NEAR HUARAZ

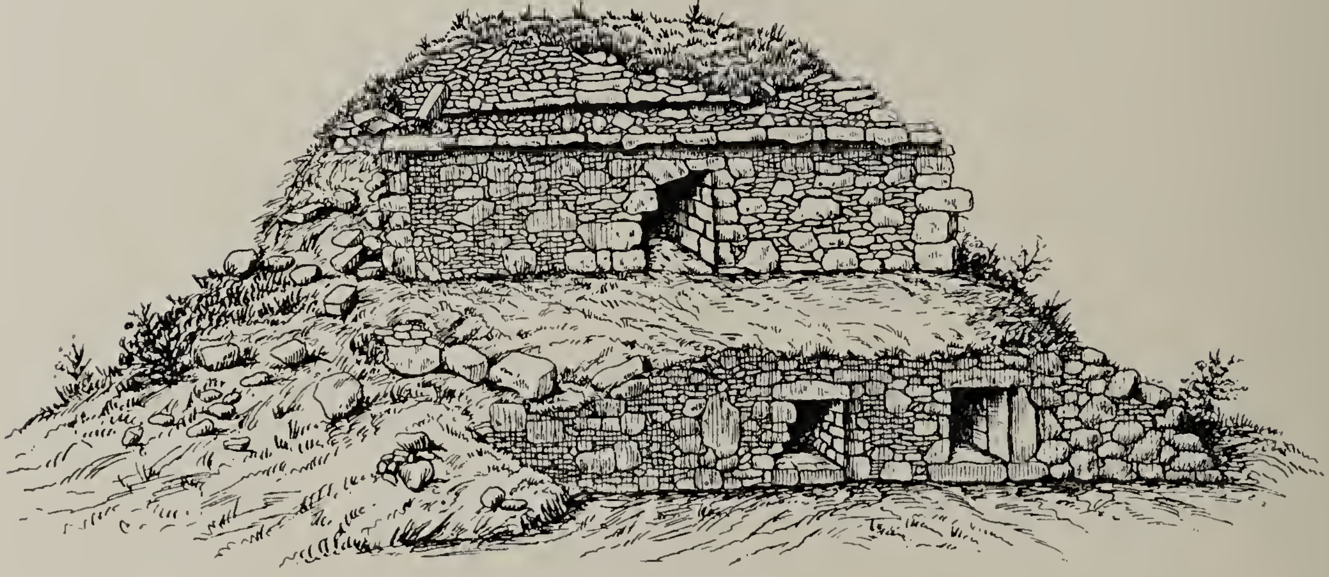


FIG. 8—WARI RAXA

Both are of the same style and differ only in size. The first consists of only one compartment, with niches in the walls; the second has two stories and is very interesting because of the strange distribution of the galleries inside, which lead to a large niche, near which a stone stairway rises to the second floor. It is believed that from these shrines and that of Pongor, which has nearly disappeared, come the majority of the stone statues which today adorn the cemetery and the hospital of Huaraz.

The temples are large, terraced, and truncated pyramids. The most notable are in the Callejon de Huaylas near its principal cities: Wari Raxa (Fig. 8) to the east of Lakes Tapara and Matara at the extreme south of Callejon; Poma Kayan, in Huaraz Wansakay in Yungay, and Tumchu Kayko in Caras. The first has not been explored. It presents three terraces and five stairways and rises four meters and a half above the level of the ground. The second has been explored many times and galleries made of hewn stone have been found within. From it comes the large granite plate and cup—magnificent works of art—which today are kept in the Museum of the University of San Marcos. The third (Wansakay) has been explored, and at present is used as a modern cemetery. The fourth (Tumchu Kayko) is only a pile of stones, but Raimondi reports that it was formed by great terraced walls.

6. These pyramid structures of the Archaic epoch have their highest representation in the temple of Chavin de Huantar, in the Province of Huari, which is now the best-preserved example, since the temple of the Callejon de Huaylas is in ruins, due to the destruction caused by the eradicators of idolatry and by the treasure hunters, as well as to the exploitation of its building materials for use in modern constructions.

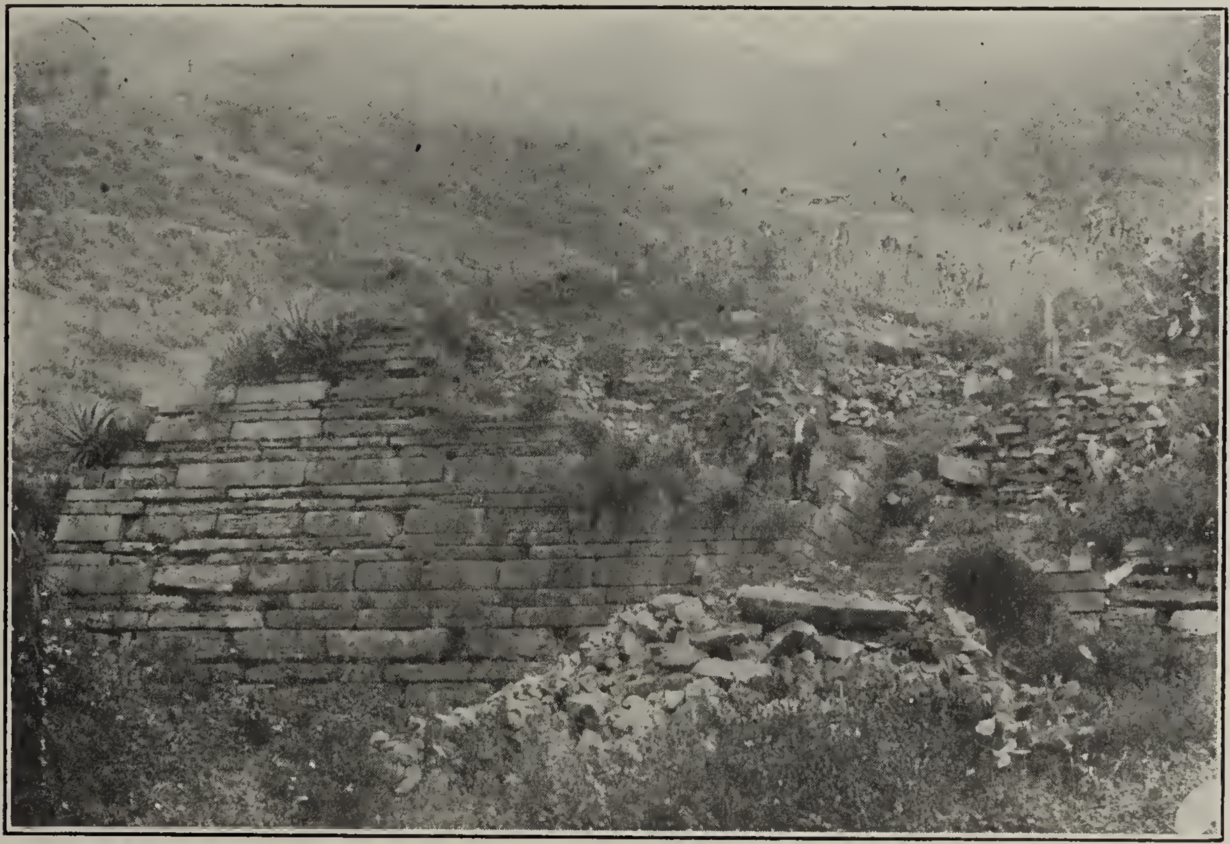


FIG. 9—CHAVIN: RUINS OF THE MAIN TEMPLE

Chavin lies on the other side of the snow-covered cordillera within a ravine where two small tributaries of the Marañon unite. It is forty kilometers to the east of Recuay and twenty-eight to the southeast of Huari, within the angle formed by the confluence of Mariash Creek, a mountain stream of the eastern Cordillera, with the Puccha, which comes down from the southern side. The narrow and abrupt ravine down which the Mariash flows, widens to about half a kilometer before uniting with the Puccha and divides the Mariash into two sections: a level one where the modern town of Chavin de Huantar is situated and an undulating one to the south, where are found the ruins improperly called the Ruins of the Castle.

The land which forms the slope of the hill on the southern and southeastern sides, presents the well-known aspect of the inter-Andean alluvial earth, in both the virgin lands and the cultivated fields; an aspect which is the same as that presented by the area of some thirty thousand square meters occupied by the ruins. Thus the archaeological field is found slightly broken by mounds, hillocks, and terraces covered with weeds, together with cultivated depressions or basins which do not, at first sight, suggest the existence of subterranean structures. And even the exposed section of the temple, which corresponds to

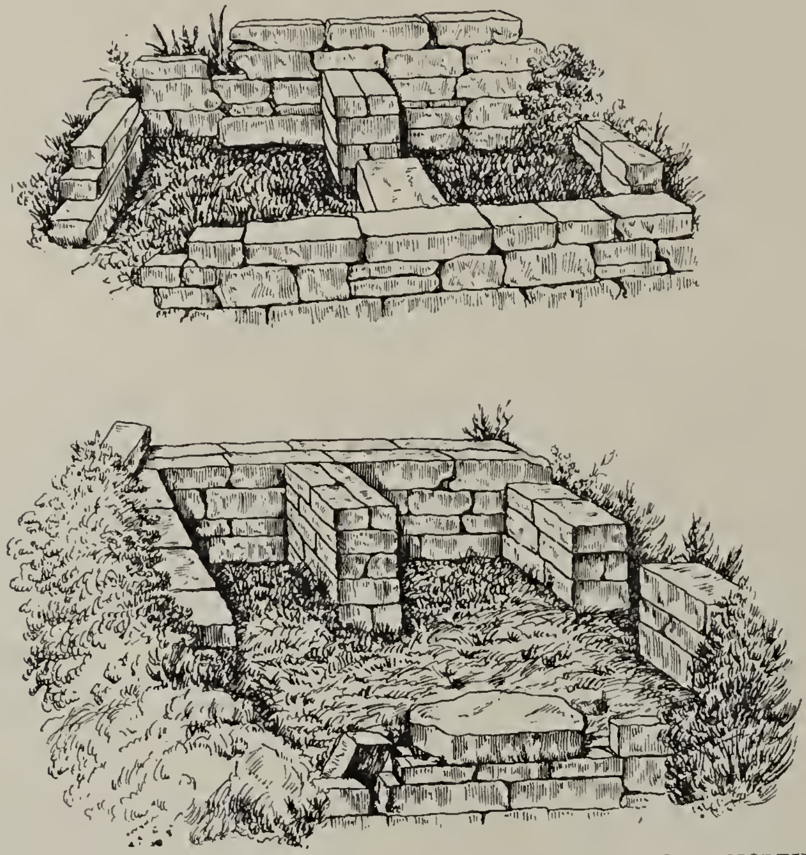


Fig. 10—CHAVIN: RUINS OF THE TOP FLOORS; SOUTH SIDE, BELOW; NORTH SIDE, ABOVE

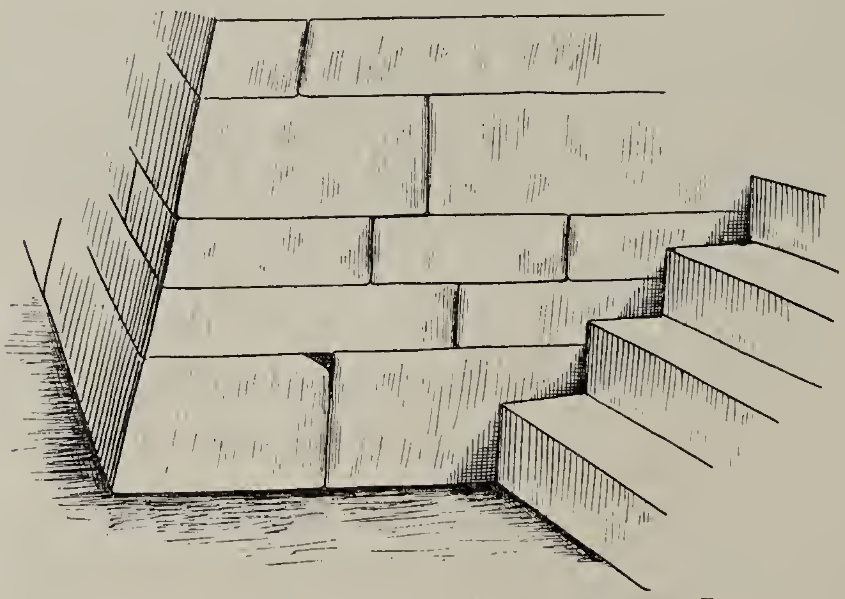


Fig. 11—CHAVIN: STAIRWAY OF THE TEMPLE

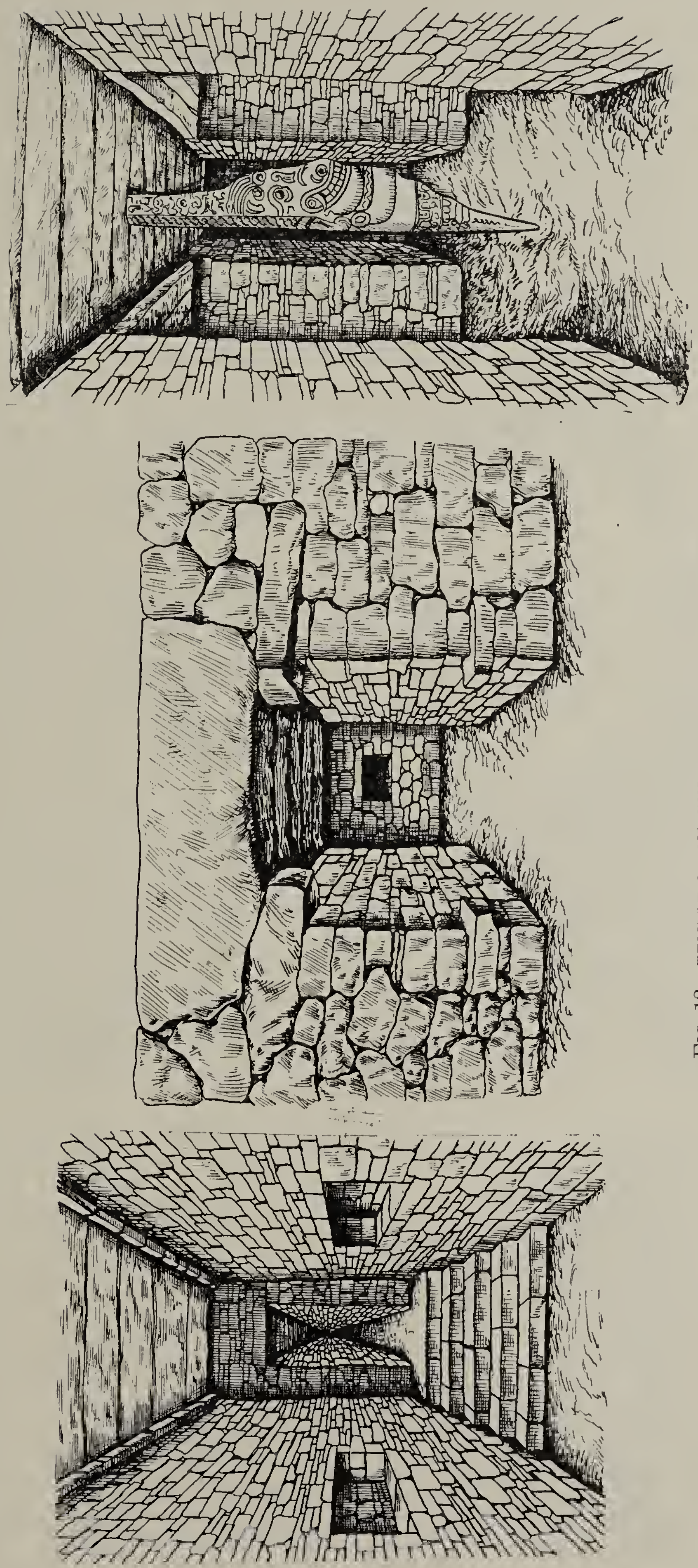


FIG. 12—TEMPLE OF CHAVIN: DETAILS OF THE INTERIOR

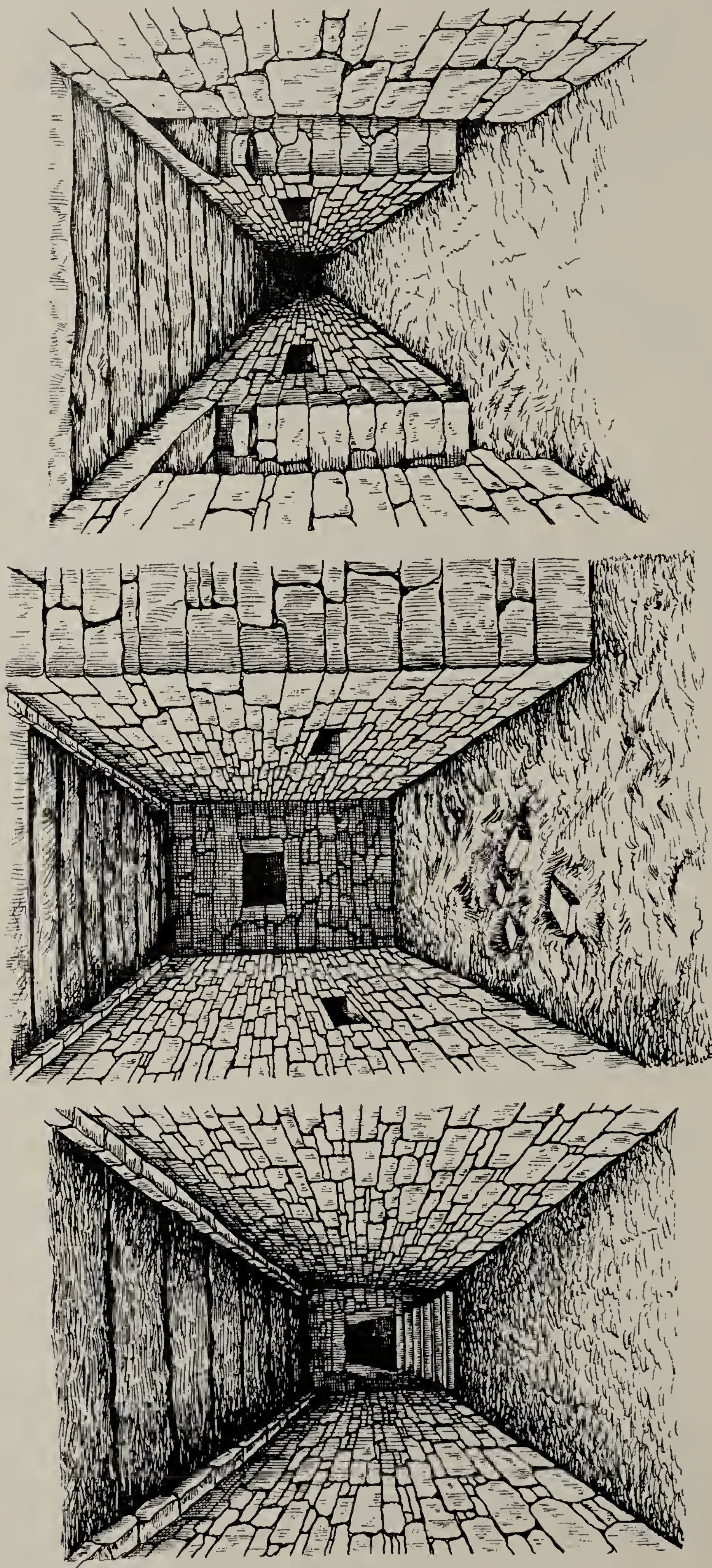


Fig. 13—TEMPLE OF CHAVIN: DETAILS OF THE INTERIOR

one corner of one of the principal buildings, forms a platform or terraces partly stony and partly cultivated. Nevertheless, when one observes the field from the other bank of the river, the rectangular form and the symmetrical arrangement of some of the eminences and depressions, attracts his attention, and careful examination of these permits him to recognize the architectural plan of the temple.

This consists of two superimposed platforms. The first rises to a height of six meters above the level of the river and is bounded on the north and the south sides by two rectangular buildings: that on the south, lying from east to west, the other, from northeast to southwest. At a distance of sixty meters behind this platform, rises the second, about two and a half meters higher, the outline of which is not visible in every direction (Fig. 9). On this, in its turn, rises a third, much more elevated platform, six meters high in some places. This appears to be the principal edifice of the temple. Above it rises still another building which must have had various compartments; the walls, for the most part destroyed, are constructed of hewn stone (Fig. 10). Also on the north side, and apparently on the outside of the platform, are two hillocks, a small one lying at the side of the principal building, to which it seems to me connected by means of a narrow terraplein; the other which is larger is in front of this and to the side of the rectangular edifice.

On separating the brush to look for the entrance to the temple, I discovered on the façade of the principal building an admirably constructed stairway which certainly must have served to ascend to the upper edifice on the outside from the second platform (Fig. 11). All of the temple must have risen above the plain at some distance from the hill, for a short time ago, on making a cut in the rear of this hill for the construction of a road, the southeast corner of the principal edifice was discovered, disclosing a cornice formed of carved stone with figures of jaguars and serpents, and a large human head of stone embedded in the wall.

One enters the principal edifice by means of two perforations which have perhaps been made by treasure hunters in the eastern façade. The interior (Figs. 12–13) is a regular labyrinth of galleries or long passageways, which cross one another in different directions, though always at a right angle; they ascend and descend by means of stairs to other galleries, and are interrupted here and there by rectangular compartments from which, in their turn, other galleries lead in different directions. Due to the intricacy of the distribution of the galleries and to the difficulty of obtaining good light in the subterranean chambers, it has been impossible to explore the temple properly and much less to appreciate its proportions. The galleries are approximately from a meter to a meter and a half in width. It has not been possible to calculate their height, because all of them are at present filled in with earth and stones. Nevertheless, in the place where an excavation was made to discover the monolithic lansir which represents the supreme deity, to which, without doubt, this temple was dedicated, at a depth of three meters the floor had not yet been reached. The walls of the galleries have large rectangular niches arranged horizontally and vertically like panels. The walls are traversed by a sort of almost quadrangular culvert, with an opening sixty to seventy centimeters square, the function of which is not known. Drawing near the entrance to one of these, which is reached after traversing various compartments and descending a few floors, one can clearly hear the sound of running water. The natives of Chavin believe that there are several of these streams which pass through canals constructed on different levels and that on the lowest levels the walls are found adorned with carved stone, while many who perhaps exaggerate, affirm that the galleries continue under the river, communicating with other galleries which are supposed to lie beneath the ruins on the opposite bank.

The materials employed in the construction of Chavin, and, in general, the style of architecture, are similar to those of the Archaic structures of the Callejon. One notes in Chavin, however, a certain predilection toward the rectangular stones which have been cut for the purpose and toward the use of hewn, polished, and carved stones in the architectural adornments. The roofs are formed of large uniformly cut stones, and are arranged crossways with the walls, some placed end to end with others, like beams.

Up to the year 1919, the lithic art of Chavin was represented only by the Raimondi stone which was brought to Lima in 1874, and by two imperfect drawings of stone carvings made known by Wiener. In that year, I found sculptures in Chavin, as important as the Raimondi stone, which were used by the natives in construction and as objects for domestic use. I have made replicas of some of them and have had others brought to Lima, but the majority of those discovered still remain in Chavin. Two sculptured human heads adorn the stone bridge which is found on the Mariash; one tile, covered with mythological figures, forms part of the altar of a Catholic chapel adjoining the bridge; fragments of tiles with sculptured figures representing felines and conventionalized condors form part of the foundation of the house; other sculptured heads are used in the corrals as stakes, to which domestic animals are tied, while tiles, with various sculptured figures, have been broken in order to fit into the lintels and thresholds of the public and private buildings of the town of Chavin. One obelisk covered with figures in relief, which was found with a piece of the upper part missing, served as a decoration for the entrance of the church. Happily, this obelisk was completed, thanks to my discovery of the missing part, and it is now in the Museum of the University. In front of the principal edifice of Chavin, I also found a large stone; on turning it over, suspecting that it may be the cover to a subterranean entrance, I was surprised to find that it was carved with figures in relief which represented condors.

The number of discoveries of works of art of this kind is sure to increase greatly, when the ruins are methodically explored. To judge by the lithic fragments already found, by the excellence of their work of art, by the complexity of their representation, and the richness of mythological religious symbols, it may be supposed that the temple of Chavin must have been adorned with stelae, obelisks, and statues both within and without, which made of it one of the most notable monuments of American aboriginal art.

7. There exists also a kind of structure to which attention has not yet been sufficiently directed. Apart from the numerous corrals which are found nearly

everywhere in the *punas,* as signs of the development of stock-raising, there are other corrals, patios, or enclosed plazas of different sizes and of rectangular or circular form, situated near the shrines or at the foot of snow-covered hills which have been taken to be *pak'arinas* or sacred places. The construction of these corrals must have demanded the joint efforts of an organized people, for they are formed of great stones, planted vertically and arranged in rows in the same style as the enclosure of Kalasasaya in Tiahuanaco. These corrals were sacred places where the Indians congregated for the celebration of ceremonies destined to conserve the flocks and make them multiply. Thus affirms Hernandez Principe, the zealous extirpator of idolatry, who gives not only information regarding the function of these corrals, but also says that other small corrals which are found were used to care for the animals specially selected for their extraordinary beauty or monstrosity, which were to serve as sacrifice animals, and were called *Wari Wilka.*

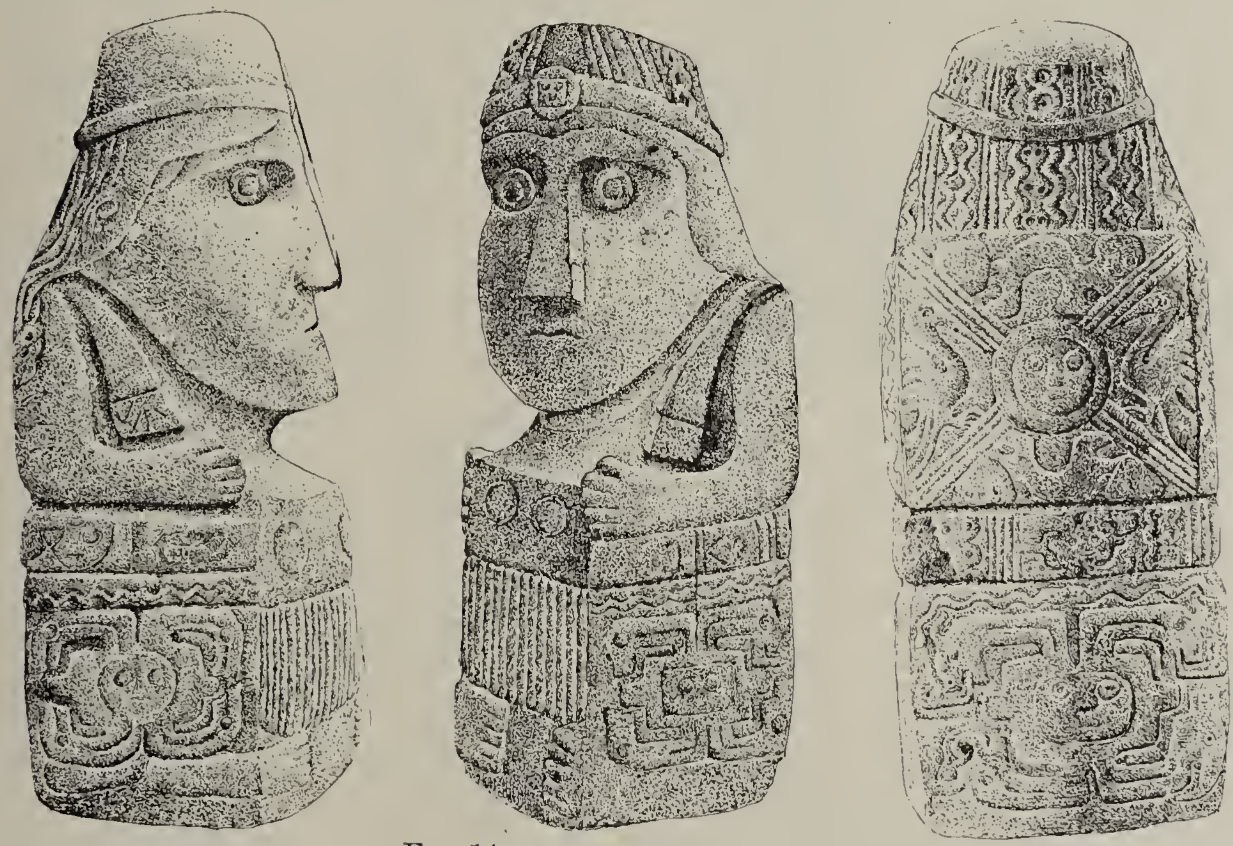


Fig. 14—aija huaraz: statues

Another of the manifestations of the Archaic culture is the considerable development attained in the art of monolithic sculpture, which is intimately related to the architecture. Sculptures are found which serve as adornment for the villages, others form parts of the shrines, and still others, notable for their artistic refinement and complex idealization of shape, form parts of the temples which were dedicated to the worship of the supreme divinity symbolized by the jaguar.

In the villages, the lintels of the principal entrances and those of the arches which lead into the different wards or districts into which they are divided are ornamented with symbolic figures in low relief, which clearly reveal the fact that they have been placed there to defend the villages from human enemies and malevolent genii.

The presence of human figures, guarded over by jaguars or condors, and equipped with sacred or magic attributes such as serpents, *mak'anas,* and trophy heads or, in other cases, figures representing the heads of human beings or felines, adorned with serpentine appendages, also guarded by jaguars, could have no other significance.

Thus one notes a close relationship between the statuary sculpture and the structures called shrines, for the lack of a more appropriate name. These consist, as has already been stated, of small pyramids, subterranean chambers, enclosed patios, and other special depositories. The pyramids are adorned with stone statues, representing warriors and women; the subterranean chambers served for the preservation of the mummified bodies of the immediate ancestors; the patios were devoted to the care of llamas and other animals destined for sacrifice, and the buildings especially to the storing of food offerings and the various objects of idol worship, such as gall-stones, small idols or *konopas,* and probably also ceremonial pottery vessels.

The statues (Figs. 14–16) are numerous and are found scattered in nearly every part of the sierra of the Department of Ancash. They represent the entire body of men and women. Their size varies: there are small ones of forty centimeters and large ones up to 1.30 meter in height; the maximum circumference varies between 1 meter and 1.60 meter. Nearly all of them have been carved in granite. The personage is usually represented in a sitting position; only rarely, standing. The extremities are flexed; the knees at the height of the abdomen or chest, and the lower legs either straight or crossed. In the former case, the toes are pointed inward so that they nearly touch, and in exceptional instances they are in reverse position, that is, the heels are turned in and the toes out. In the latter case, the feet are placed at the sides or turned towards the back and this circumstance permits the representation of the genitals above or below the crossing of the legs.

The statues assume a diversity of forms; prismatic, quadrangular, elliptic, egg-shaped or oblong, or even sometimes approximate a truncated cone. The narrow part corresponds to the head and includes a half or a third of the statue. The face is elliptical or egg-shaped, with the major axis vertical; the narrow part corresponds to the cranium, which at times is high and cylindrical, as if to represent its artificial deformation. The nose is high and carved, with smooth facets; the eye is represented by a ring which surrounds a central disk corresponding to the pupil; the mouth is indicated by an indentation, or carefully carved; while the ear is represented by a semilunar eminence, adorned with ear caps or hidden beneath the head cover.

The apparel differs according to the sex, there being certain uniform features characteristic of the clothing of men and others characteristic of that of the women. The best adorned men use a cap of feline fur, with a posterior flap or *talaria;* a collar, or tippet, which protects the throat and chest; a kind of shirt or tunic, and trunks or a *wara.* The women wear a kerchief or *nanaka* fastened to the head by means of a headband or *wincha.* Their apparel is much better represented. It generally consists of a tunic adorned with mythological figures in rows, fastened about the waist, in certain cases, by means of an ornamented belt, a *lliklla* or small mantle on the back, equally ornamented, and a plaque in front which looks like a bag decorated with two circles and a long strip hanging from it.

Also certain personages, men or women, wear other ornamental accessories. For example, on their knitted hoods, circular or semilunar, the men display plaques or disks; the women also adorn themselves with rectangular or quadrangular plaques on the headband or the belt, and with earrings of various forms. But the most characteristic features of these representations are the almost universal use, on the part of the men, of two human heads hung from the neck, one hanging down the back and the other on the chest; the wearing of a feline fur cap showing the head and especially the claws of the animal, or adorned with small human heads, and the use of a club and a shield. The women's dress may be characterized by the *nanaka* or head kerchief, which is always decorated with undulating lines, and the *lliklla* and ceremonial plaque which are displayed in front.

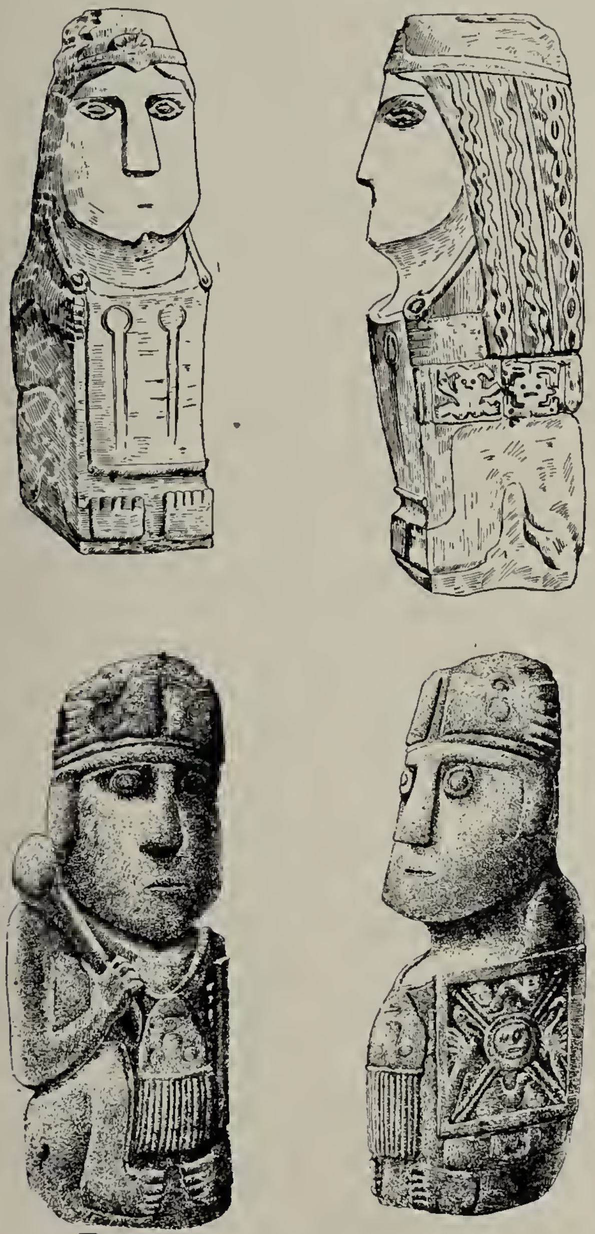


FIG. 15—AIJA HUARAZ: STATUES

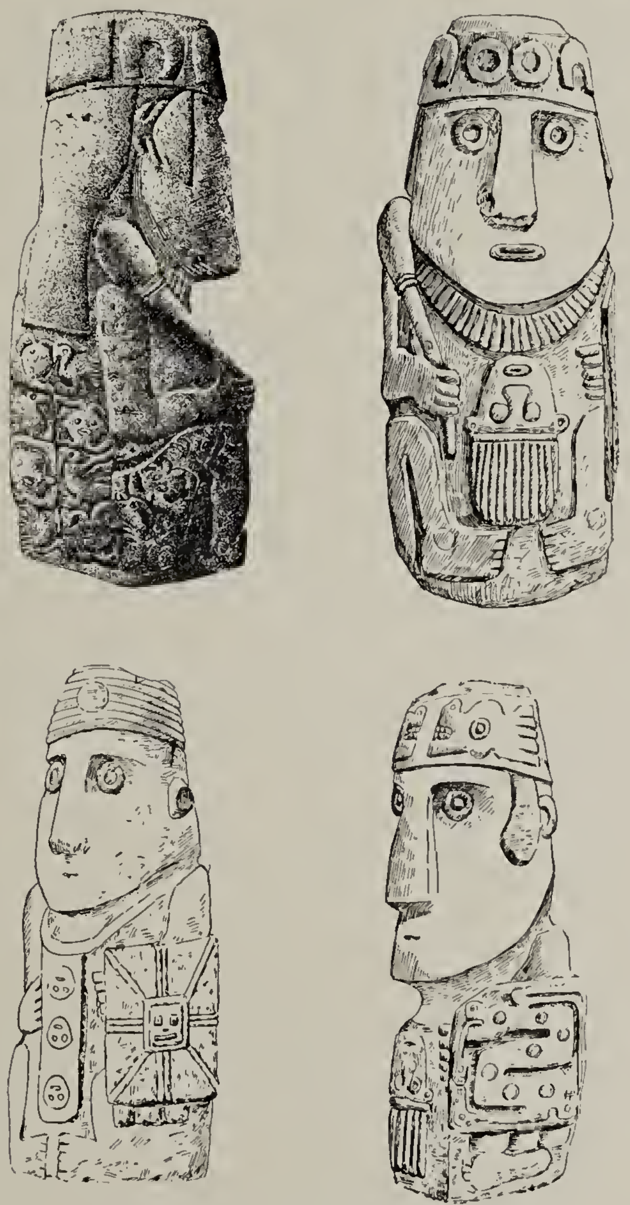


FIG. 16—AIJA HUARAZ: STATUES

The unity of style in these sculptures is manifested in the almost universal employment of the same decorative motives consisting of human or feline heads, provided with serpentine appendages, the employment of felines and birds represented almost realistically or conventionalized, effecting diverse forms, which if we did not know their origin, might be taken for worms, fish, or toads, and the use of a bicephalous serpentine monster derived from the jaguar, which generally adorns the shields of the men. In addition to the statues of warriors and women, are also found human and feline heads of different sizes, adorning the shrine, being embedded in the walls. There are very small heads of the size of one's fist and large ones nearly a meter high. Some are crudely sculptured and others are notable for the perfection of their carving. Nearly all of the heads are of men and women who wear a headdress similar to that of the personages represented in the full-body statues. Finally, there exists a close relationship between the sculptures representing mythological personages and the large temples.

The monolithic sculpture of the Archaic epoch has its finest representation in the art of Chavin. The fundamental features which define and distinguish it are: first, representation of an animal divinity, the origin and inexhaustible source of their artistic conceptions; second, the mastery over stone which is shown not only by its manipulation in enormous blocks and the construction of their temples, but also in the perpetuation of the figures of their gods; and third, the sculpture for assuring the fidelity and beauty of their conceptions.

The sculptural art of Chavin is represented by tablets or stelae, obelisks, statues, and various smaller objects such as stone plates, cups, and vases. The figures appear engraved by means of incisions or furrows, standing out in plain relief, carved in high or low relief, or laboriously hewn out in bust form. The commonest are the tablets with figures engraved and in plain relief.

The study and classification of the different figures represented permits one to recognize certain principles which help in an understanding of Chavin art, as follows:—

1. Only one archetype motive, represented by an idealized feline, serves as a basis for all the representations.

2. The feline motive becomes simplified, forming simpler ornamental motives. Thus, the feline is reduced to a head and an appendage, which takes the form of a serpent; or perchance it is reduced to the representation of one of its morphological characteristics, such as the claws, spots, jaws, or nose, these being the ones which abound most in the ornamentations, especially those of the smaller stone objects which have been found not only in the area of Chavin, but in more distant places.

3. The feline motive multiplies in harmonious combinations and originates the most complex representations.

4. The process of multiplication or repetition of the motive itself, follows the tendency to create and define new forms among which the condor and the fish figure principally, in which the feline seems to incarnate itself. The jaguar-divinity is an idealized form of the common jaguar. It is currently found in profile and in its form as a quadruped, but idealized by the addition of serpents which seem to emanate from its body; it bears on its back fruits or food roots, such as yucca, peppers, lima beans, or beans. At other times it is found in the ventral position, giving the impression of a great worm, of a fish, or of other

monstrous forms, originated perhaps by the necessity of the artist to adapt the figure of the divinity to the not always regular or proportionate form of the stone. In other cases, it clearly effects the form of a condor with extended wings, but even in its most insignificant details it is formed with elements derived from the head of the jaguar. And finally, the divinity is anthropomorphized in a vertical position, with human attributes, with fine apparel and bearing arms and scepters in its hands. This is the most notable form and is illustrated in the Raimondi stone, in the short thick monolithic lance, in ceramic objects, or stamped on objects of gold.

Apart from the many representations based on the jaguar, there are other works of sculpture in bust form, consisting of feline and human heads, idealized by the use of serpents or motives derived from the jaguar, which served to adorn the temples.

It is not yet possible to determine the area of propagation of the Archaic culture represented by its two most notable manifestations: its architecture and its sculpture. A stela of the characteristic style of Chavin was found in Yauya, twenty leagues to the north of that place. Smaller stone objects with ornamentations of the same style, have been found in much more distant places, as in Pomabamba, Pallasca, and in the littoral. Stone statues of the same Archaic type as those found in the Department of Ancash, have been found in the ruins of Huari, situated between the provinces of Cangallo and Huanta of the Department of Ayacucho and Luis E. Valcarcel and Jose Frisancho have recently described the ruins of Pukara in the Province of Lampa, Department of Puno, which belong equally to the same type as the ruins classified in the Department of Ancash as Archaic.

In Pukara there is a corral or enclosure like that of Kalasasaya, constructed with large upright stones, which served to enclose the stock destined for sacrifice, or as a place for the great heathen ceremonies which are characteristic of this epoch. There are also stone statues representing men and women, one of which, 1.57 meters high, represents a man clothed after the manner of the personages represented in the statues of Aija, that is, with a headdress made of jaguar skin and a tippet, and armed with a knife and a human head. There is also a large stela of rectangular form, which is 3.7 meters high, 1.26 meters wide, 0.246 mm. thick, which in ventral position represents the same monster as that recognized in some of the broken stelae of Chavin, ornamented in front and behind with serpentine motives and jaguar heads and with vermiform body, which reminds one of the decorations of the stone of Yauya. This serpentine representation of the feline appears to better advantage in another stone discovered at the same place, 1.66 meters long, and 0.47 meters in its greatest width, in which the monster appears in the act of dragging himself along as if to grasp a disk or ring which he has before him.

Perhaps it would not be too venturesome to affirm that the area of the Archaic Andean culture, revealed by its architecture and sculpture, extended on the south to Tiahuanaco and on the north to San Augustin in Colombia, for some of the structures and sculptures of these places present certain analogies to the monuments which have served to characterize this culture, and to define the first stage of the Andean civilization.

In ceramics we have another valuable trait of Andean Archaic art. Though not as important as the architecture and the sculpture when we consider the local modifications ceramics pass through making difficult the recognition of its genetic relationships, the fragile character of the material which makes it less durable than stone, and the facility with which it can be carried from its place of origin, render it difficult to know the real area of propagation. Its importance is great, however, as an historical document because in it have been registered, and with certain fidelity, if we consider the plasticity of the material, certain aspects of the life, customs, uses, and even religious conceptions of the people of the Archaic epoch at times by means of the form and at others through the carving and painting.

In the Archaic, as in the later stages, are found different styles of pottery within the same cultural horizon. There are local variations which correspond to divisions or differentiations of the same culture and even variations depending on the purposes which determined its manufacture.

Up to the present, four ceramic types are recognized in the Archaic culture; the center for two of these seems to be found in the Callejon de Huaylas; the center for another has not yet been determined, but corresponds to the style belonging to Chavin and its area of propagation must be very extensive in the Sierra as well as on the Coast, to judge by the fragments which have been found; and the last, the center of which is also unknown, although abundant remains of it were discovered a short time ago along the littoral, between Paracas, near the Valley of Pisco, and the mouth of the Ica River.

I will treat the ceramics of the Archaic culture of Paracas on some other occasion.

The two types of pottery of the Callejon de Huaylas are very similar and differ only in certain characteristics. The more primitive technique, the predominance of the utilitarian forms, the lack of ornamentation and the incipient form of the first type, contrast with the more advanced technique, the better material, and the variety of form and ornamentation which the second type affords.

I had an opportunity to examine, in the ruins of Kopa, near Carhuaz, three tombs which had recently been opened by treasure hunters, in which nearly two hundred pieces of pottery had been found, part of which were transported to Carhuaz and the rest abandoned in the tombs, some as too ordinary and the rest because it was broken.

The tombs were cists situated near a small stone edifice similar to those shrine-like structures which rise at the center of the area where subterranean chambers are found. They were not very deep, less than 1.50 meter, and the diameter of the opening, one meter, the sides being walled up with dry stone. I did not find any skeletal remains in them and, rather than tombs, they gave me the impression of being depositories or granaries called *kolkas* such as are common in other ruins. Later in 1921, Mr. Thomas Dextre presented the University Museum with a collection of ceramics from the same ruins of Kopa, nearly half of which belonged to this type. Dextre assures us that he extracted them from a cist similar to those which I found, which always contain bodies.

Attention is directed, in the first place, to the reduced size of the objects of art of this pottery, to the simplicity of its forms, and to the rusticity of its technique. The material is the ordinary unrefined clay, not well baked. The clay is in its natural color, brick-red or black. The walls are thick and rough; the polishing is also imperfect. All of the vessels seem to be modeled by hand and there are some figures roughly outlined, but within the simplicity of forms are a great many which are mere imitations of fruits, or vegetables the shells of which are utilized as containers. Thus, all of the forms of this interesting pottery can be reduced to four principal types, each one of which comprises several varieties of vessels derived from a single form of fruit or vegetable. Three of these groups have been derived from three morphological types of the calabash or *lagena,* and one from a tuberous root, the *arracacha.*

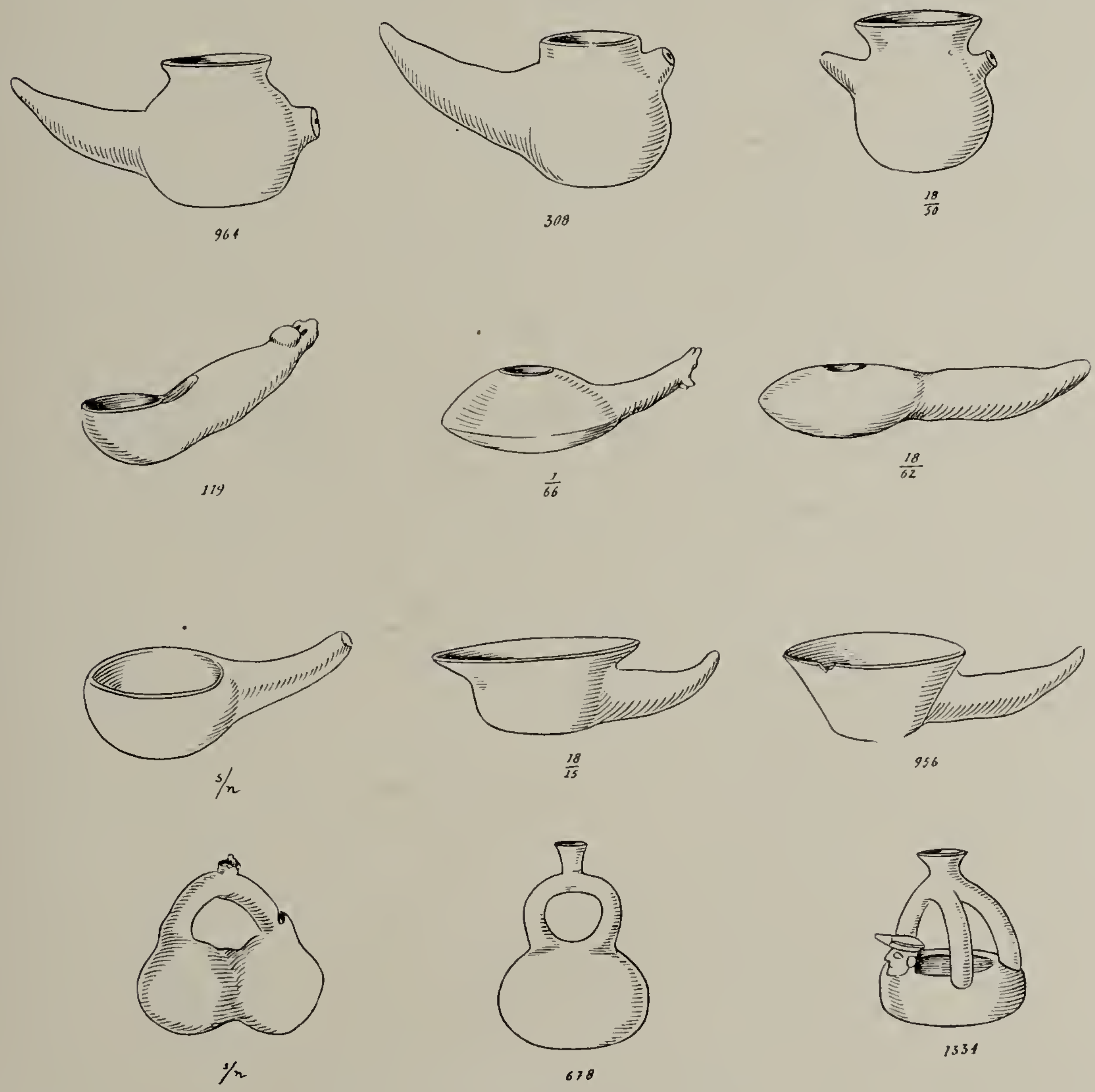


FIG. 17—KUSHUNA FORM OF POTTERY

In the Indian language the three morphological types of containers coming from the *lagena* are known as, *kushuna, puro* or *purucha,* and *puto.*

The *kushuna* is the spherical form of the *lagena,* with a tubular projection similar to a haft or handle and in the body of the handle of which a square or circular opening has been made in order to use it as a vessel. The globular part is the container proper and the tubular or horn-shaped part is the handle. Generally, a perforation is also made on a level with the hilum or insertion of the peduncle, to allow the liquid contents to flow out as from a teakettle or *packcha.*

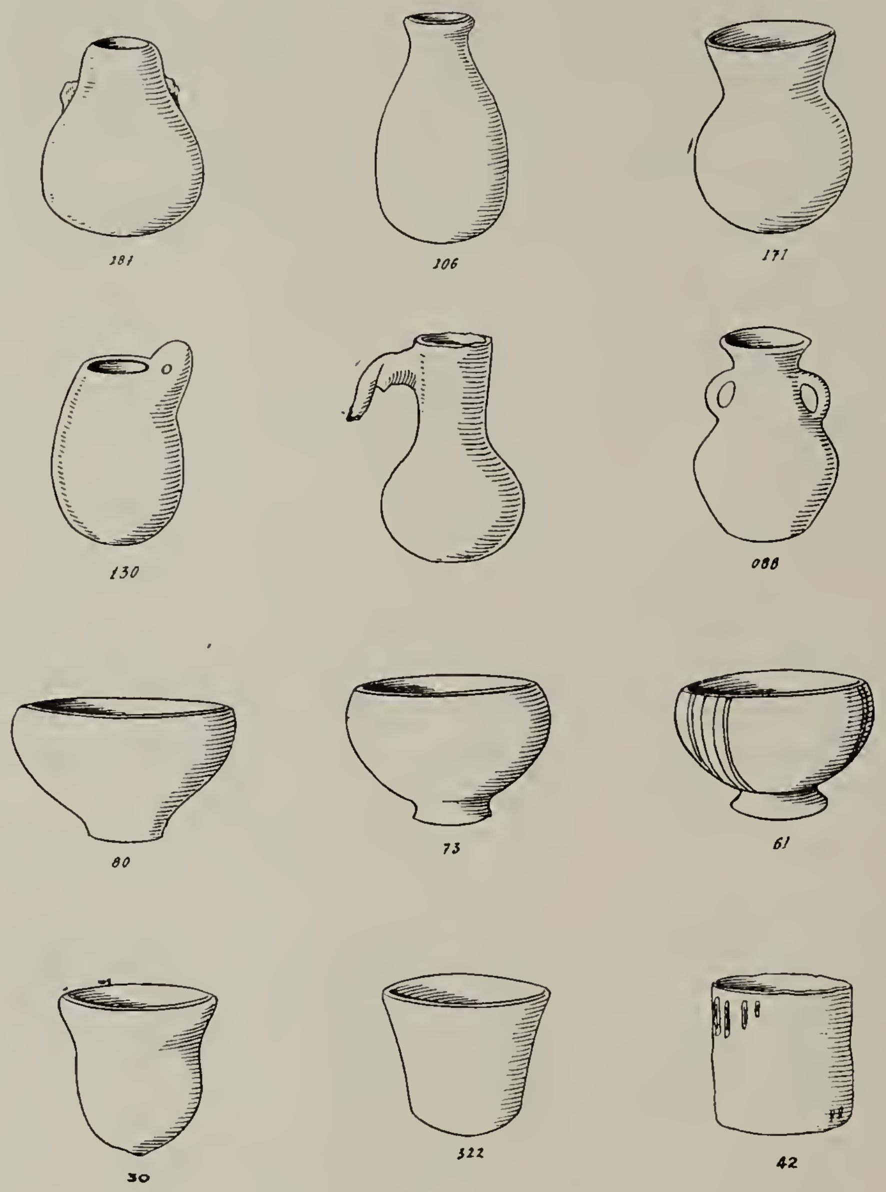


FIG. 18—PURU OR PURUCHA FORM OF POTTERY

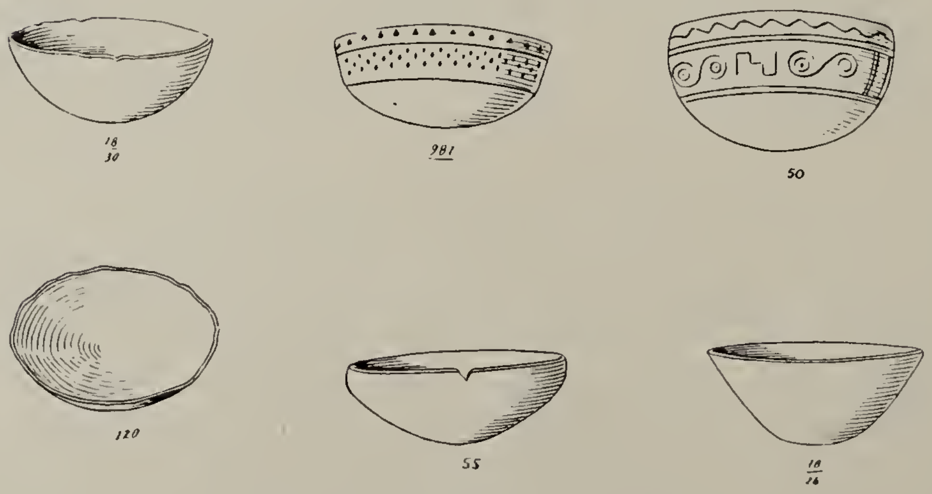


FIG. 19—PUTO FORM OF POTTERY

(Fig. 17, 964, 308, and 18/50.) These vessels pass through modifications in the form of both the body and the handle, depending principally upon the treatment given the mouths of the vessel. This may be a simple perforation, more or less open, or protected by lips expanded outward, thus producing different forms (Fig. 17, 119, 18/62, 1/66, s/n, 18/15, 956) which are utilized, some as ladles or spoons, others as plates and cups with a handle, and others as toasters for corn.

When the lengthened tubular portion of the *lagena* is very curved, it is difficult to use the vessel as a container if an opening is made in the globular or tubular portion, but this difficulty is overcome with advantage by using the tube as a handle and attaching a branch conveying tube to the middle part of the arch. This is the way the globular decanters with arched tubular handles must have originated; a form which like many others, is common in this pottery as in the Muchika (Fig. 17, s/n and 678).

The *puru* or *purucha* is the pear-shaped fruit of the *lagena* in which an opening is made in the top of the cone or at one side of it. The cut may take in only the upper surface or it be made lower down near the body of the fruit, originating in this way by imitation, vessels formed by an enlarged container and a slim and more or less elongated portion, or narrow neck. From this fundamental form different types of decanters, all of them intimately related, are derived through modifications of the body and of the neck.

Very often this form is utilized by inverting it and using the slim narrow portion as a base or pedestal for the vessel and making an ample opening in the body of the container. It is probable that many cups with cylindrical or bell-shaped supports have this origin, for one is struck by the similarity between these vessels and those of the *lagena,* not only in their shape, but in their decorations engraved with fire which imitate the ornamentation of the *lagenas.* There is also found among the primitive forms of this pottery one which imitates the upper, reduced portion of the *lagena,* which, inverted, is used as a drinking vessel. From this prototype are derived a variety of cups and cylindrical drinking vessels (Fig. 18).

Puto is the spherical or globular form of the *lagena* in which a circular opening is made at one of the poles. The cut may slice off a disk or a bowl-shaped section, or may pass straight through the fruit at the middle, cutting it into two equal pieces. The resulting parts are covers for the kettles and mates of greater or less depth. These forms are well illustrated and with considerable realism in the Archaic pottery, and the decorations of many pieces seem to imitate, as has already been said, the ornamentation of the *lagenas* (Fig. 19).

The vessels of tripod form which appear with some frequency in this pottery seem to imitate the tuberous root of the *arracacha.* In the Sierra the butt-end of the *arracacha* is at present utilized as a container. Some specimens of this pottery imitate the *arracacha* with marked realism as is also found in the Muchika pottery (Fig. 20a, b).

The interest aroused by the study of the morphology of this pottery of the first group because of its derivation from certain vegetable forms is augmented when one verifies in it the efforts of an incipient form and ornamentation.

The pottery of the second type is known as Recuay pottery because the first specimens carried to the Museum für Volkerkunde in Berlin in the Macedo Collection, were extracted from the subterranean chambers of Katak near Recuay by Don Agustin Icaza. In 1919, during my journeys in the Department of

Ancash, I had the opportunity to acquire from private individuals nearly six hundred specimens from various estates and towns of the Callejon, as well as in the Provinces of Huari and Pomabamba, which are found today in the University Museum. I was not fortunate enough to find a grave intact and I found only fragments of this kind of ceramics in some of the subterranean chambers. It still remains to be determined whether the pottery of primitive technique found in Kopa is more ancient than or contemporaneous with that of Recuay.

The ceramics of Recuay are varied in their general characteristics. In the majority of the specimens the clay is fine and white like kaolin. It is found also in red, gray, and black. Every piece of pottery seems made by hand; even in those of the best form one does not discover the use of a mould. The walls are strong and relatively thick. In the ornamentation, the color of the vessel itself is used as background, if the vessel is white. When it is red, gray, or black a wash of white color is applied and the decoration is made in dark brown bands or panels which serve as background for the white figures drawn in, or, the white figures may be painted red. The average height of the vessels is twenty-five centimeters to thirty centimeters and the maximum circumference fifty centimeters. There are some very small vessels, although a few, like those of the first type and some exceptionally large which are fifty centimeters high.

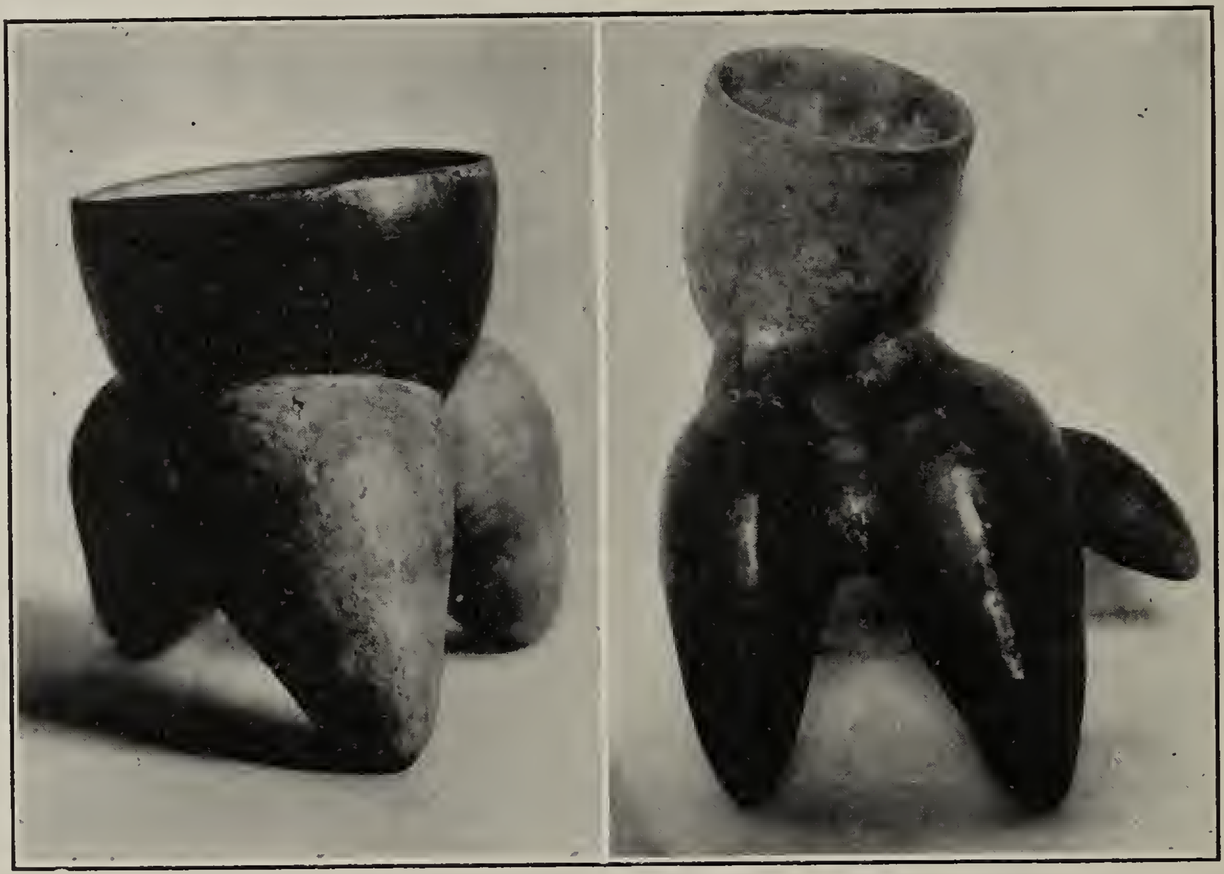


FIG. 20—ARRACACHA FORM OF POTTERY, CALLEJON DE HUAYLAS

The fundamental morphological types are identical with those described in the preceding type, derived like them from diverse forms of the *lagena*. The figuration consists of a determined number of individual and scenographic representations. Among the former we find, apart from the vegetable representations derived from the *lagena,* the zoomorphic representations among which predominate the condor, heron, owl, jaguar, and the armadillo, all of which are found superimposed on the vessels as ornaments. The anthropomorphic forms are men and women who imitate the forms corresponding to those of the statues, that is, men armed with a club, shield, and trophy head, or guarded by jaguars, and women arrayed like those of the statues, in the attitude of offering drinks or food. Among the scenographic decorations there are: first, a priest with elegant apparel who leads a llama to the sound of the *antara;* second, a chief or priest surrounded by women who do him homage; third, reproductions of shrines on terraces, whose walls are decorated with symbolic figures and with sculptured human heads which seem to be embedded in them, and whose upper edifices are guarded by human figures which clearly reproduce the stone statues. The relation of these scenographic ceramic forms to the sculptural forms is made still more evident when one discovers in the ceramics, in the pictographs and forms the same symbolic figures which adorn the lintels of the doorways of the villages.

Lastly, among the most important forms in these ceramics is found a mythological being or priest who wears rich apparel and is armed with a knife in one hand and a human head in the other.

The ornamentation is based on the almost exclusive treatment of the jaguar, the condor, and the serpent, which are arranged in panels. The jaguar rarely appears realistically; the conventionalized zoomorphic figures have probably been derived from those which decorate the textiles. The jaguar appears in the attitude of jumping or running, adorned with a long cephalous appendage and with various rings and crosses which appear to be stars. The geometric ornamental motives consist of crossed parallel lines, rings, hooks, volutes, feline claws and serpents' heads intertwined after the manner of their arrangement in the textiles.

The third type of Archaic ceramics is represented by the black pottery of the Chavin style. In this, as in the Archaic of the Callejon there are two classes: one of primitive technique and incipient ornamentation and the other of an advanced technique with ornamentations similar to if not identical with those of the stones of Chavin.

In the subterranean chambers of the north Andean and in Chavin sherds of black, coarse ceramics are found, mixed with fragments of the Callejon style. I laid no importance to this fact in 1919 because I thought that such pieces represented only the propagation in the sierra of the black ceramics of Chimu, a propagation which I had been able to follow in 1916 from Paita to the basin of the Marañon. However, I had occasion later on to see some pieces of black pottery from the Provinces of Cajatambo, Canta, and Huarochirí. Also at the end of 1926 I extracted from a cave near Tupe, in the Province of Yauyos, where the natives still conserve, in all their purity, many of their ancient customs as also the *Ak'aro* or *Kauke* language which seems to be the primitive Andean tongue, some fragments and complete pieces of black pottery, some of them similar in style to the Archaic of the Callejon and others to that of the Chavin type and perhaps closer still to a certain type of black pottery of Paracas. These facts show that the area of propagation of the black ceramics of the Sierra is probably as extensive as on the Coast and corresponds to a period earlier than that of the well-known Chimu pottery and even earlier than the black pottery of Muchik. In my journey to the Marañon I saw in a collection of antiquities formed in Mowopon by a Señor Elias and composed almost in its entirety of black pottery of the Chimu style, a decanter of rare form which is found today in the Museo de Arqueologia Peruana. The container is similar to a fruit or perhaps a tuberous root, the mouth is flaring and thick-lipped, the ornamentation is based on feline heads of the Chavin style made by means of incisions.

At the end of 1919 I observed that among the objects coming from the Valley of Chicama, of the well-known Muchika style, there were some specimens of black pottery with a neck similar to the decanter mentioned and with ornamentations also of Chavin style. Since then I have noted that among the collections of Muchik ceramics there were always pieces of the Chavin style and even stone objects of the same style. This led me to recognize also the Chavin style in many specimens of the Muchik type of pottery in the genesis and evolution of that pottery.

This influence of the Chavin art on that of Muchik and the presence of black pottery of a different style from that of the Muchik and Chimu made me suspect the existence of a new style of pottery which from its ornamentation could not be considered other than Chavin pottery.

The recent discovery of a Chavin tomb in Chongoyape in the Department of Lambayeque by the brothers Alexander and Antonio Galloso has confirmed my opinion. On making an excavation in the waterworks tank of Chongoyape for the purpose of enlarging it, they found, at a depth of three meters and in ground that gave no signs of having been formerly disturbed, three reclining bodies with remains of fire on each side. The bones were very fragile and broken in pieces, but with them they found breast-pins, earrings, rings, and other pieces of gold jewelry, some with figures in répoussé of the typical style of Chavin and two specimens of black pottery of the same type. They also obtained from some boys a collection of gold objects which had been laid bare by the caving-in of an ancient irrigation ditch on the Almendral estate. The collection contained bracelets, anklets, and pendants, all of them with répoussé figures of jaguars in the Chavin style. This important discovery proved that the Chavin culture as revealed by its ceramics has an area of propagation that extends to the littoral. In my opinion the ceramics found in fragments in the shell-heaps at Ancón and Supe by Uhle in 1904 and 1905 and considered by him as the most ancient remains of the Peruvian coast, belong to this type.

The Archaic ceramics of Chavin may be characterized as follows: the predominant color is jet black, the clay is fine, well-baked and polished, the common form is globular with the tubular neck straight or curved, thick, and provided with a salient lip; the ornamentation is based on the representation of the head of the feline or the condor and, as in the stones of Chavin, the figures are engraved in plain or high relief. The background of the ornamentation is fluted, dotted, or netted.

Museo de Arqueologia Peruana,
Lima, Peru.

EL TEMPLO DEL SOL DE LOS INCAS EN CUZCO

Por Max Uhle

DESPUÉS del reparto del imperio de los Incas entere los Conquistadores quedó instalado en el antiguo santuario del Sol el Convento de Santo Domingo por los Santos Padres quienes habían recibido de regalo el edificio para este fin de Pedro Jizarro.

Estos no hesitaron de adaptarlo inmediatamente a su nuevo destino, derribando numerosos muros interiores del edificio y construyendo en el lugar del santuario del Sol una iglesia espaciosa para el nuevo culto. La consecuencia fue que pronto se obliteró la memoria de la distribución y del fin de los cuartos antiguos. Varios de los primeros cronistas saben referirnos solamente abruptos e incoherentes detalles, y solo Garcilaso, quién de joven había oido hablar frecuentemente en el seno de su familia de la hermosura y del culto ejercido en el templo antiguo, fue capaz de emprender una descripción sistemática de él en sus *Comentarios Reales.* Pero aun Garcilaso ya sabía poco de lo que había sido el templo en el tiempo antiguo. Escribió sus obras históricas estando en España, y en numerosos detalles de su descripción su memoria ya le debe haber fallado. Nos cuenta de la existencia de tabernáculos en las cuatro paredes que cerraban el patio interior del templo. Pero ya las dos paredes que aun existen nos prueban que en esas solo una mostraba este detalle. Nos cuenta que en su tiempo ya dos de las capillas antes existentes, en continuación a la del Sol, las dos próximas de la serie, la de la Luna y de las Estrellas, se habían derribado. Pero su descripción del templo no deja ningún campo, para localizarlas, ni abre tampoco posibilidades de entender, por donde quedaron las ultimas de las cuatro capillas de la serie, la del Trueno y la del Arcoiris. Porque según su descripción el templo propio del Sol ocupaba ya todo el espacio tomado ahora por la iglesia moderna. Los tres cuartos que siguen por el Norte en dirección al Sureste (vea el plano, Fig. 1, b–d), hasta el día bien conservados, son demasiado estrechos (5 x 5.50 m.), de construcción menos perfecta, provistos de nichos del tipo más común en el imperio de los Incas, para poder considerarse como lugar de capillas en honor de divinidades antiguas; y por el Sur, en el ala que sigue en las misma dirección al Sureste, hay solo un buen cuarto, el primero (e) bien construido con tres buenos nichos en la pared del Sureste (vea Fig. 2)[1] mientras que las otras dos que siguen eran de construcción casi ordinaria, aparentemente por ninguna parte provistos de nichos, el uno de los dos (f) de dimensiones desproporcionadas, y ambos también de otras maneras sin calidades que podrían hacerles parecer destinados para capillas.

La descripción de Garcilaso sufre, al parecer, también de otros errores. El templo antiguo propio del Sol tenía, según sus palabras, la extensión de la presente iglesia (A, unos 80 metros del Noreste al Sureste). La pared Este

---

[1] El tipo de la construcción del cuarto corresponde al de la parte exterior Noreste de todo el templo (vea Fig. 3).

(entonces de 80 metros) habría formado el altar antiguo. Lo llama testero, como la frente estrecha en el interior de las iglesias de ahora. De pared a pared se habría extendido en este testero un imagen del Sol, una exageración muy anotada ya por Lehmann-Nitsche en su nueva obra sobre el templo (Coricancha, Buenos Aires, 1928). Otro escritor, de mucho mérito por numerosas noticias valiosísimas que da del imperio antiguo, Santa Cruz Pachacuti, dibujó la pared del testero con sus emblemas enteros. Por la primera vez publicó Lehmann-Nitsche este dibujo, según su forma original en el Manuscrito. Resulta que la pared del testero, apuntada hacia arriba, había estado cubierta de un techo de media agua. Por consiguiente la forma del templo con su pared Este de 80 m. de largo, de la cual nos habla Garcilaso, no puede haber sido la verdadera.

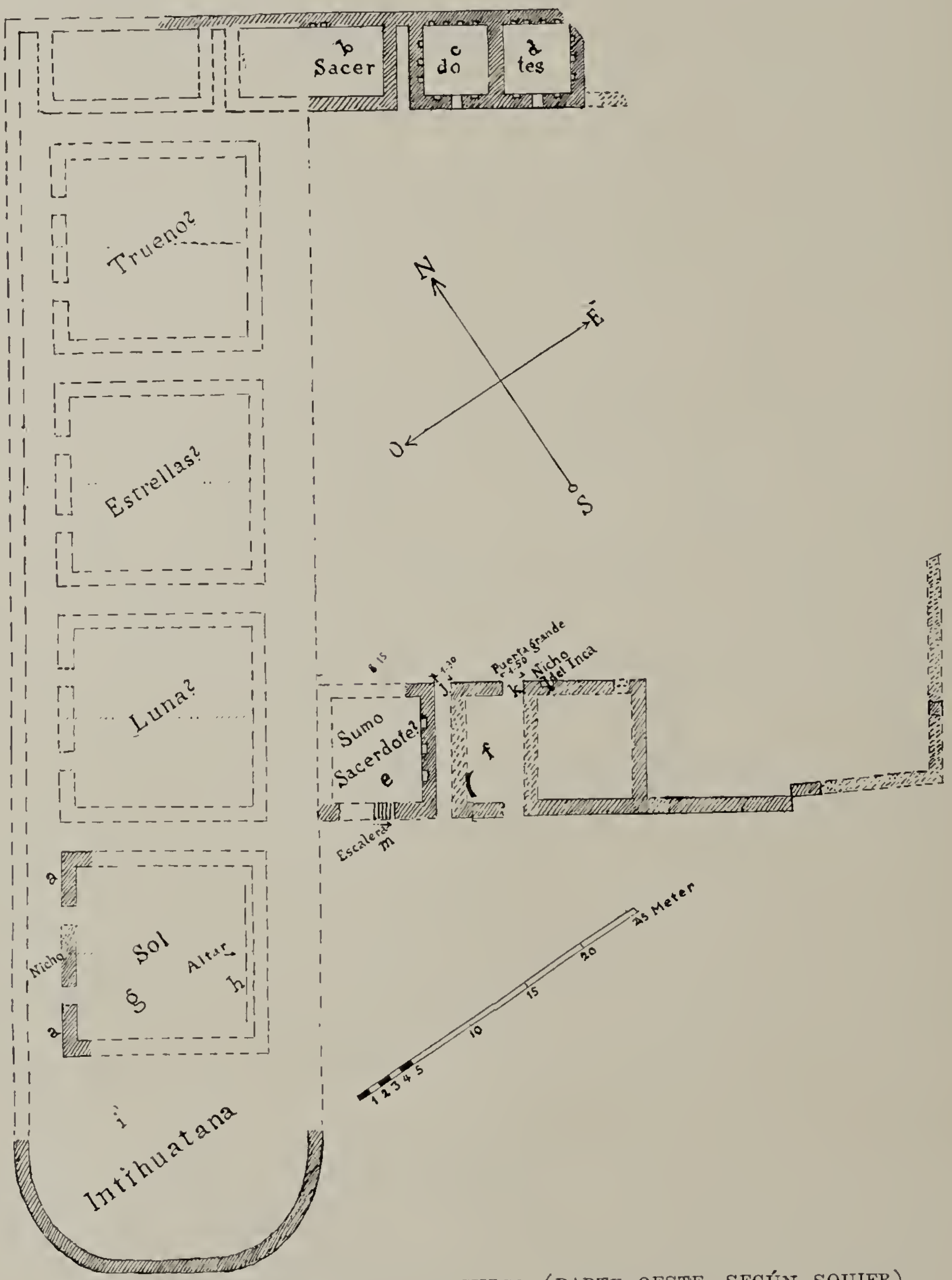

b Sacer
c do
d tes
Trueno?
Estrellas?
Luna?
a
Nicho
Sol
Altar
h
g
a
i
Intihuatana
N
E
O
S
Sumo Sacerdote?
e
Escalera m
Puerta grande
Nicho del Inca
k
f
l
25 Meter
20
15
10
5
1 2 3 4

FIG. 1—EL TEMPLO DEL SOL DE CUZCO (PARTE OESTE, SEGÚN SQUIER)

George Squier, cerca de los años de 66, hospedado por una semana en el Convento, confeccionó en aquel tiempo un plano del edificio y de sus muros antiguos, reproducido en su obra: *Perú. Incidents of Travel and Exploration* (London, 1877). El mismo plano ha servido de base para el presente, Fig. 1, de la parte Oeste del Convento, con algunos modificaciones. Los muros antiguos conservados hasta ahora están dibujados en ambos con el color más oscuro, los de existencia antigua solo probable en color más claro, otras nuevas de la iglesia moderna solo en blanco.

Durante una corta visita que también él que escribe pudo pagar al Convento en 1905, aprovechada para la repetición de algunas medidas, ya dadas por el plano de Squier, fue notado la existencia de un pedazo de muro antiguo en medio de la iglesia nueva, cerca de a, en el plano. Este muro tenía un largo de más o menos 12 metros en dirección Noreste al Suroeste. Terminaba por los dos cabos con esquinas, que indicaban sus continuaciones por ambos lados en dirección Sureste. Se marcaban en el muro los vestigios de dos entradas, equidistantes de las esquinas correspondientes por 3.86 m. en la una, y 3.85 m. en la otra. También el resto de un nicho se había conservado en la mitad del espacio entre las dos entradas. La distancia de este muro del lado correspondiente interior de la iglesia, continuación del muro Oeste del antiguo Intihuatana (i), era más de un metro. Evidentemente había habido un cuarto antiguo en este lugar no notado por Squier. Completándose ese cuarto según las proporciones presentes del templo, correspondientes a los dos flancos del Intihuatana antiguo resulta un ''galpón'' (g) de las proporciones indicadas en el plano, más o menos de 12 m. x 18.

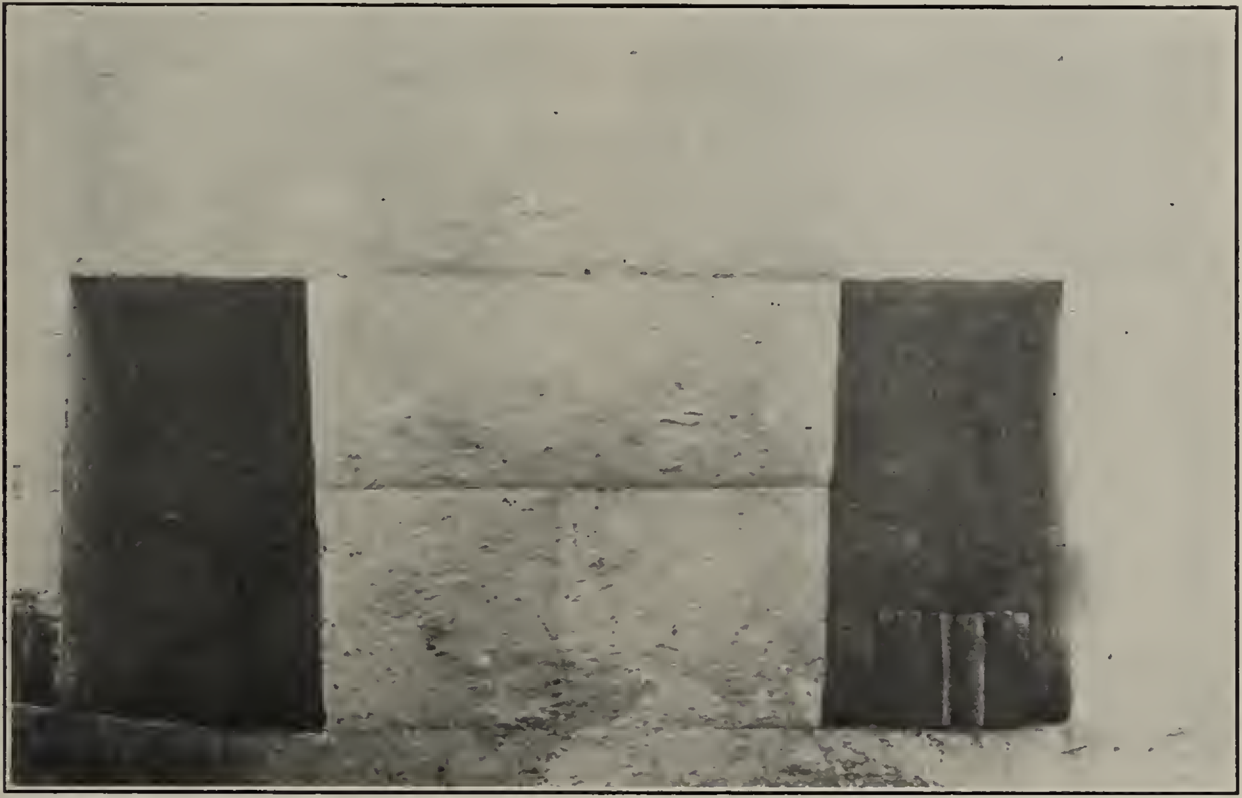


FIG. 2—LOS NICHOS DE LA PARED SURESTE EN EL CUARTO, E, DEL PLANO

¿Que puede haber presentado este cuarto espacioso en medio del templo moderno? ¿No puede haber significado el templo original del Sol mismo? Garcilaso dice: ''Donde tenían la figura del Sol, está oy el Santísimo Sacramento''. No podría haberse expresado mejor, si conceptuaba el sentido de esta frase verbalmente. Según la descripción del templo en las Comentarios Reales el sentido de la frase habría sido solo de carácter más general. Tomando el cuarto reconstruído por el antiguo santuario del Sol, y su pared interior Este (h), por el testero original, habría habido campo suficiente, y más proporcionado también, para la exhibición de las momias de los Incas pasados enfrente del imagen del Sol, colgado en la pared del testero; la extensión del testero no habría sido demasiada, para que la ocuparan el imagen del Sol con otros que, según Pachucuti, en este lugar lo acompañaban. Muy bien se podría haber extendido sobre esta pared corta un techo de media agua de la forma indicada por el dibujo del mismo Pachacuti, y por la reconcentración del espacio dedicado individualmente al Sol solo a la parte Suroeste de la iglesia moderna, habría habido, además, suficiente terreno para la distribución de varias capillas hacia el Noreste dentro del campo ocupado hoy por la iglesia dominicana. Varias dudas nutridas hasta hoy sobre la disposición de los cuartos en el templo antiguo se disolverían en esta manera de un golpe.

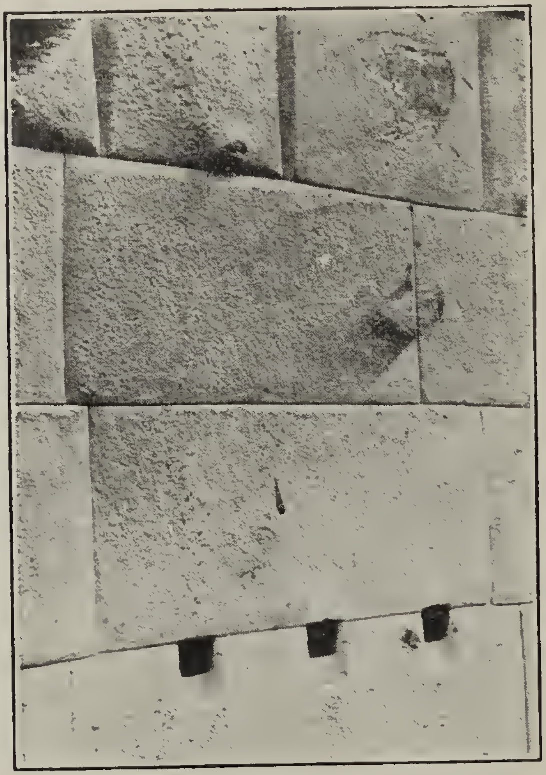


FIG. 3—TIPO DE CONSTRUCCION DE LA MURALLA NORESTE EXTERIOR DEL TEMPLO

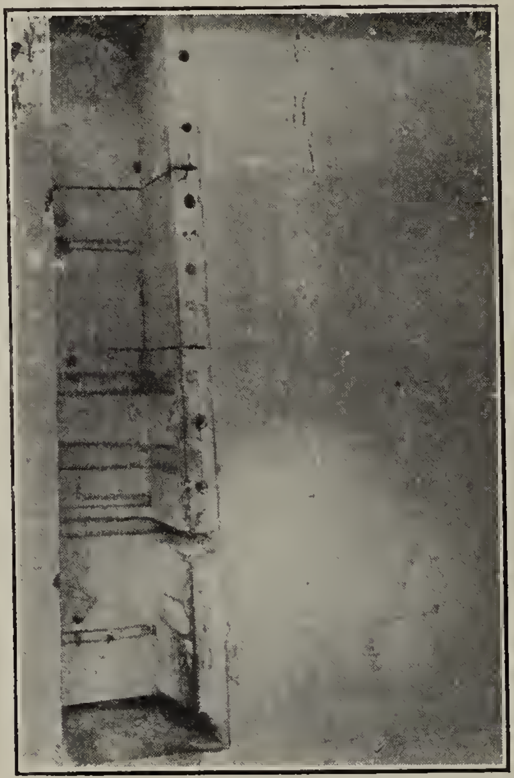


FIG. 4—MITAD CONSERVADA DEL ''ESCAÑO DEL INCA'' EN LA PARED SUROESTE DEL PATIO (PLANO, 1)

Parece una lástima que sobre los detalles de un edificio, importante como el primer templo del imperio incaico, se sabe hasta el día tan poco por la ocupación de su lugar por un culto moderno. Quizá muestra la presente exposición, la posibilidad de averiguaciones más extensas, si pudiera haber en el lugar la oportunidad de estudios dedicados al objeto.

Habla Bartolomé de Las Casas de dos puertas grandes por donde se entraba al templo:—

> ''Tenía el templo dos grandes puertas, por donde se entraba, y subían a ellas por dos escaleras de piedra mucho bien labradas, cada una de treinta gradas.''

Solo por el lado Suroeste del templo hay una pendiente cayendo al río Huatenay. Dos puertas grandes se notan en la pared Suroeste del patio cerca de j y k en el plano, la una de 1.30 m. de ancho, la otra de 1.50 m. de ancho y 3.10 m. de altura. Podría ser que a las mismas se refirió el cronista en sus palabras.

Uno o dos escaños en la pared Suroeste del patio se mencionan varios autores, Pizarro, Cieza, Garcilaso, y otros. Estaban revestidos en el tiempo antiguo de oro, y colgadas de agujeros que pasaban por las esquinas, esmeraldas y otras piedras preciosas sobre el revestimiento mismo de oro. En este o estos asientos se sentaban el Inca y la Coya al presenciar los sacrificios ofrecidos al Sol en el patio. La mitad de uno de estos nichos, con los agujeros previstos en la pared para los adornos de piedras, existe en la pared Suroeste del patio hasta el día (vea Fig. 4, l en el plano). Al tantear por los agujeros el interior de la construcción se notó en él la presencia de pequeños huesos, aparentemente restos de pequeñas criaturas encerradas allá vivas al tiempo de la conclusión de aquel muro.

Problemático quedó el resto de una pequeña escalera cerca del punto m, en el plano, observada igualmente durante aquella corta visita. Pareció conducir para arriba.

QUITO, ECUADOR.

EL CLISTER EN EL ANTIGUO PERU

Por L. Vélez Lopez

EL CLISTER fue conocido en el arte de curar, desde las épocas mas pretéritas. Los aborígenes del Asia, los de Europa, Africa y América hacian uso con objeto tal, de los mas diversos y caprichosos artefactos. En el pais de los régulos—los antiguos peruanos del Chimu—que probablemente existieron desde antes de Jesucristo (Mochicas, Protochimus, y Chimus) hasta después de la conquista española en el siglo XIV. Los antiguos peruanos, deciamos, sabían ya de muchas prácticas de curar, y entre otras, citaremos, la hidroterapia, el trépano, el masaje, y el clister.

Un buen numero de huacos extraidos de las escavaciones de Chan Chan que se exhiben hoy en los museos nacionales y muchos particulares comprueban nuestras afirmaciones y es muy altamente demostrativo, el ceramico de Chan Chan, cuya fotografia adjunto y que da perfecta idea de la práctica de la lavativa.

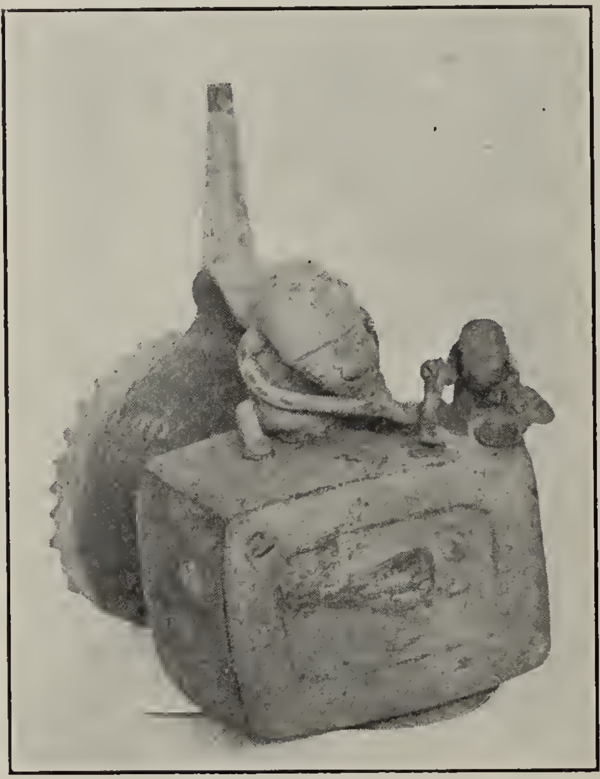


Fig. 1—vaso de chan chan que indica la manera de usar el clister

Como se ve en la figura la alfareria que describe y que pertenece a mi colección de antiguedades chimus se compone de dos compartimientos, uno anterior cúbico y otro posterior oval; ambos receptáculos están unidos por un amplio tubo central que establece franca comunicación entre ellos. En la parte superior plana, del compartimiento anterior, que es el interesante, hay un grupo plástico de tres personajes de los que el más grande, que se destaca perfectamente en la copia, lleva la indumentaria o vestimenta que tienen casi todos los objetos que en los wacos desempeñan las practicas de curar. Este individuo que ha inclinado el cuerpo hacia adelante tiene los carrillos abultados, lo que manifiestamente expresa que la cavidad bucal está llena. Dentro de sus labios parte, algo como un tubo arqueado a manera de cuerno y cuya extremidad inferior penetra en el orificio anal de un indio que tiene el rostro contraído, con la fiel expresión del sufrimiento. Este personaje a no dudarlo un enfermo es sostenido en posición horizontal con las piernas levantadas por otro indio con la mano derecha, mientras que con el brazo izquierdo pasado bajo la nuca le levanta la cabeza.

El autentico vaso desenterrado en la capital del reino del Chimu que acabó de describir, es por lo demás importante porque nos enseña una de las tantas costumbres de los yungas, hasta ahora ignorada y nos demuestra que los aborígenes de la América Meridional entre los siete y doce grados de latitud sur (Cieza de León, Prescott, etc.) se valian de una verdadera cánula o pitón algo encurvado y afilado en una extremidad, por donde la fuerza desarrollada por la contracción de los musculos que forman los carrillos (businadores, zigamaticos, etc.) aumentada quizá por la presión del aire insuflado con la boca hacia pasar el liquido conque previamente llenaban la cavidad bucal, en el intestino, verificando asi aunque a su manera practica del clister.

Trujillo, Perú.

NOTAS CRONOLOGICAS DE TIHUANACU

Por Arthur Posnansky

Advertencia

En el XXI Congreso Internacional de Americanistas, que tuvo como sede de una de sus sesiones La Haya, dí cuenta de mis investigaciones referentes a la edad de Tihuanacu, basadas en estudios y mediciones astronómicas en el gran Templo del Sol de aquella metrópoli del hombre americano en los Andes; trabajo que fué publicado en los anales del citado Congreso. (Vease Anexo).

Una gran parte de los Americanistas han recibido estos estudios con el mayor interes y otros con un escepticismo indiferente.

En los ultimos años, las investigaciones en esta materia, no solo han adelantado más, sino que han sido controladas por la Comisión Astronómica alemana que en la actualidad efectúa en Bolivia estudios astrográficos de la bóveda celeste del hemisferio Sur.

Los notables sabios que succsivamente integraron esta comisión, han verificado mis investigaciones al respecto. El Profesor Doctor Hans Ludendorff, Director del Observatorio Astronómico y Astrofísico de Potsdam, ha recorrido en el terreno, hace dos años, el Templo del Sol, dando cuenta de mis investigaciones a la Academia de Ciencias de Berlín en Noviembre, 1926. Sus sucesores, el Profesor Doctor Arnold Kohlschütter y el Doctor Friedrich Becker, el primero Director del Observatorio Astronómico de la Universidad de Bonn, y astrónomo de la Specula Vaticana el segundo, y por último, el astrónomo de Potsdam Doctor Rolf Müller, han controlado en el terreno, desde el punto de vista astronómico, mis estudios practicados en los últimos años, encontrando diferencias mínimas en las observaciones que efectúe y publiqué en años pasados.

Acompaño a la presente, para que sea conservada en los archivos del XXIII Congreso de Americanistas, el acta suscrita con el actual Jefe de la Misión Astronómica, Doctor Rolf Müller, de las observaciones efectuadas en el solsticio último del 21 de Junio, 1928 (Anexo).

Nuevos Aspectos y Observaciones Referentes al Templo Del Sol de Tihuanacu

La diferencia que existe entre el meridiano geográfico de Tihuanacu y la pared Oeste del III periodo del Templo del Sol "Kalasasaya,"[1] es, según las mediciones controlatorias:—

---

[1] Los ángulos de las cuatro esquinas del Templo son levemente dilatados o sea, los del N. E. y S. O. son ligeramente obtusos y los del S. E. y N. O. ligeramente agudos y tienen los valores siguientes:

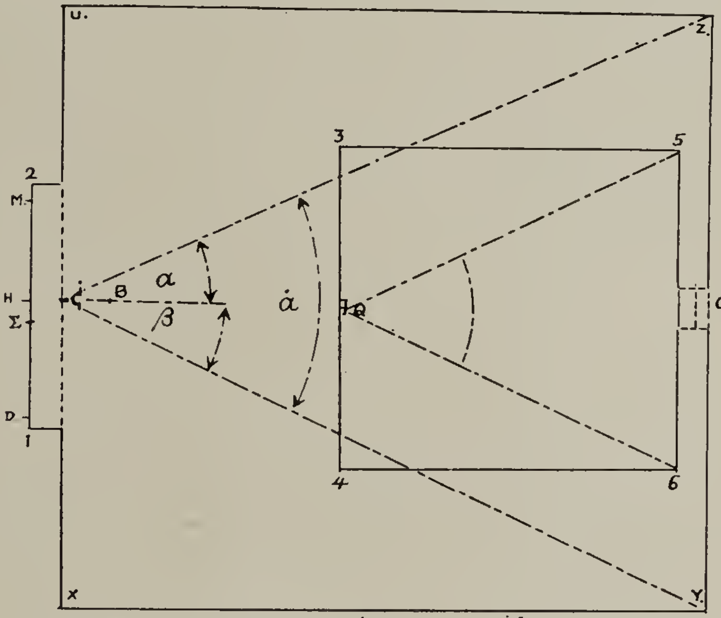
			año 1917	año 1927	
Observador Posnansky año 1926	Angulo N. E. (Z.)	90° 20′ 7″	90° 20′ 41″	90° 27′	Observado por el Prof. Dr. Arnold Kohlschütter
	Angulo S. O. (X.)	90° 19′	90° 19′	90° 29′	
	Angulo S. E. (Y.)	89° 37′ 2″	89° 37′ 15″	89° 29′	
	Angulo N. O. (U.)	89° 43′ 1″	89° 43′ 5″	89° 36′	

Observador	año	Diferencia
Posnansky	1904	55′
‘‘	1908	52′ 40″
‘‘	1912	51′ 30″
‘‘	1917	36′ 30″
‘‘	1923	40′ 30″
Kohlschütter, Becker	1927	54′
Becker	1927	1° 10′
Müller	1928	41′

En estas observaciones se uso el Sol para la determinacion

En la ultima observacion se uso las estrellas β Centauri, β Crucis, δ Muscae. (21 y 22 de junio 1928.)

El ángulo de la amplitud del Sol, marcada en el Templo del Sol Kalasasaya en Tihuanacu y medido definitivamente es de 49 grados 38′ 20″ y el del Centro de la Escalinata, al Pilar N. E. (o sea el Pilar que marca el solsticio de Invierno)



Angulos amplitudinales en el Templo del Sol.

	Año	Angulo	Observacion	Valor	Observador
	1908	Ω Z Y	al centro Pilar ZY	48°	Posnansky
	"	Θ.56.	tang.ext. " 5.6.	50°	"
	"	α DM		49°	"
	1917	Σ ZY	tang.ext. " ZY	47°14′17″	"
	1923	Ω ZY	" " " " "	50°12′36″	"
	"	Θ 1.2.	" " " 1.2.	50° 10′	"
	1927	Ω ZY	" " " ZY	49°28′	{ Kohlschüller. Becker.
	"	Ω ZY	" " " "	49° 15′	Posnansky
	"	Θ 5.6.	" " " 5.6.	50°45′	Müller y. Posnansky
	1928	Ω ZY	" " " ZY	49°38′20″	"
	"	Ω ZY	al centro " "	48°57′52″	"
Angulos eclipticales	"	∡ α	{ al centro Pilar }	24°12′35″	"
	"	∡ β		24°45′17″	"
	"	∡ α	{ langente exter. del Pilar }	24°32′35″	"
	"	∡ β		25° 5′ 45″	",

CROQUIS INFORMATIVO DEL TEMPLO DEL SOL, ‘‘KALASASAYA’’ DE TIHUANACU

Esta dilatación de los ángulos, fué causada indudablemente por un ligero movimiento geotectónico del suelo arcilloso al ‘‘shrinking’’ cuando las aguas se retiraban de Kalasasaya después de la inundación que destruyó Tihuanacu.

Si reconstruímos en un plano esta dilatación, removiendo los citados angulos obtusos y agudos en ángulos rectos, que sin lugar a duda han sido cuando el edificio fué construído, entonces resulta que la diferencia del Norte geográfico con la pared Oeste de Kalasasaya sería sólo 19′ 8″. No se puede admitir que los sacerdotes de Tihuanacu, cuya especialidad eran las mediciones escrupulosas, no podían haber sabido construír angulos rectos, que obtienen en la actualidad albañiles indígenas del Altiplano con medios rutinarios, tan exactos solo hay errores de fragmentos de grados.

24° 32′ 35″. El del mismo Centro al Pilar S. E., que marcaba el solsticio de Verano, es 25° 5′ 45″.

Observado el Sol del Punto de Observación de los antiguos sacerdotes del II Periodo de Tihuanacu, o sea el Centro de la pared Oeste[2] de dicho periodo, punto indubitable, resulta que el Sol aparece en el horizonte visible con el angulo de 23° 52′ 35″ siendo asi que este horizonte tiene un angulo vertical de 2° 34′ 35″ sobre el verdadero horizonte. *Los sacerdotes de Tihuanacu, que usaban el Templo del Sol como calendario, para dar las fechas agrícolas a sus pueblos,* observaban y marcaban la salida del Sol en el solsticio de Invierno con el Pilar N. E. Segun las observaciones, practicadas, sale hoy el Sol, en el horizonte arriba citado, con un ángulo que es 40′ inferior que en aquella época. (Presupongo que no haya cambiado considerablemente, por motivos geotectónicos, la altura del horizonte actualmente visible, compuesto de colinas bajas.)

Habiendo salido el Sol en el segundo Periodo de Tihuanacu en la esquina externa del Pilar N. E.—cosa también indubitable, como más abajo probaré—y saliendo hoy con un ángula de 40′ inferior, resulta que el ángula de la oblicuidad de la eclíptica en la II época de Tihuanacu ha sido de 24° 6′ 52.8″ que según la curva retrospectiva que acompaño, corresponde a dos edades:

1a. La de 10,150 años a. Ch. n.
2a. La de 4,050 años a. Ch. n.

y eso en vista de que ese valor toca en dos puntos la curva citada, que se halla adjunta. (p. 301.)

Según las investigaciones fisiográficas y geomorfológicas de la región interandina, practicadas en mi última expedición del Titicaca al Poopó y de las cuales doy cuenta en mi trabajo que presenté a ese mismo Congreso e intitulado: *La remoción del cingulo climaterico como factor del despueble del Altiplano y decadencia de su alta cultura* es de suponer que la cifra más alta o sea la de 12,000 años sea la aplicable a la edad del II Periodo de Tihuanacu.

Ahora, vamos al fondo, a lo principal. La crítica escéptica objetará mis observaciones con la siguiente pregunta:

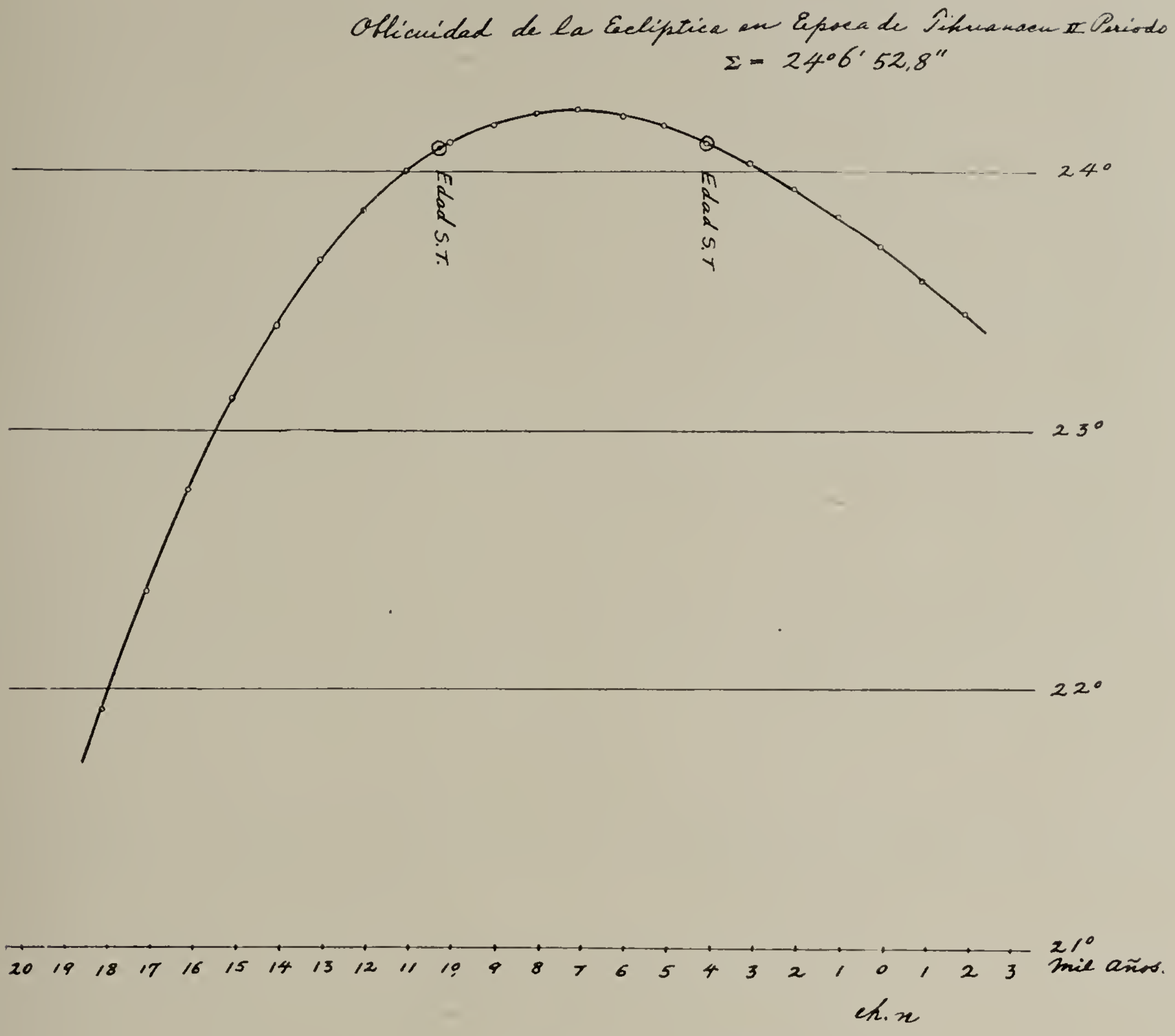
¿Habrán los sacerdotes-astrónomos de aquella época marcado efectivamente los solsticios con los Pilares N. E. y S. E. del Templo del Sol?; el hecho principal sobre el cual descansa el cálculo de la edad de Tihuanacu. A esta pregunta debo contestar afirmativamente por el motivo que paso a exponer enseguida:
La Escalinata del Templo del Sol *no está al Centro de la pared Este del* Templo, sino que se halla recorrida 1 m. 10 centímetros y 6 milimetros hacia el Norte.

Ahora bien, cuál ha sido el motivo que ha inducido a tal asimetría a gente que con tanta exactitud matemática y extraordinaria escrupulosidad y simetría orientaba sus monumentos?

Esto constituye el punto primordial del problema. El motivo de tal anormalidad aparente, quizá ha podido ser debido á la *influencia polar de altura* cor-

---

[2] Es la antigua pared del II Periodo, la que no hay que cambiar con la nueva pared de piedra andesita, construída en el meridiano que se halla paralelo a ella a casi 7 metros de distancia y al Oeste de ella.



CURVA PA. LA VARIATION DE LA OBLICUIDAD DE LA ECLIPTICA DESDE 1900 P. CH. N. HASTA 18,000 A. CH. N.

Formula = 23° 27′ 8″, 26–468″. 44t–o″, 60t² + 1″, 83t³

p. ch. n.	1900	23° E	27.1	a. ch. n.	11100	23° E	59.9
	900		34.9		12100		50.8
a. ch. n.	100		42.5		13100		39.1
	1100		49.6		14100		24.6
	2100		56.3		15100		7.1
	3100	24°	2.1		16100	22°	46.6
	4100		7.0		17100		22.7
	5100		11.0		18100	21°	55.3
	6100		13.3		19100		
	7100		14.4		20100		
	8100		13.7		21100		
	9100		11.2		22100		
	10100		6.7				

respondiente a la latitud de Tihuanacu, el Sol no sale al Centro del edificio, sino 1° 5′ más hacia el Norte.[3] (Si el templo estuviera bajo el ecuador, el Sol saldría al centro del edificio). Y como los sacerdotes del II Periodo de Tihuanacu observaban matemáticamente los equinoccios,—sus principales fiestas—tuvieron que marcar las salidas del Sol de una manera imperecedera e imborrable, o sea con la escalinata monumental y centro de la entrada de ella.[4]

---

[3] Como el punto equinoccial de Primavera desde la época de Tihuanacu a hoy a causa de la precesión, también ha cambiado, la diferencia en aquella época no era de 1° 5′, sino que debe haber sido de 0° 29′, valor que corresponde a la desviación de 1 m. 10 cm. del centro de la escalinata. Un nuevo problema que se nos revela, para un nuevo cálculo comprobatorio de la edad de Tihuanacu.

Es asi que si han marcado, en el Palacio Kalasasaya, con tanta exactitud los equinoccios, tomando en cuenta la *influencia polar de altura* han marcado infaliblemente también, con la misma exactitud matemática, por medio de los citados Pilares, los solsticios; de manera que la cifra de 40′ corresponde a la diferencia de salida del Sol de hoy con la salida de entonces, o sea un cambio de la oblicuidad de la eclíptica que corresponde a las dos edades mencionadas.

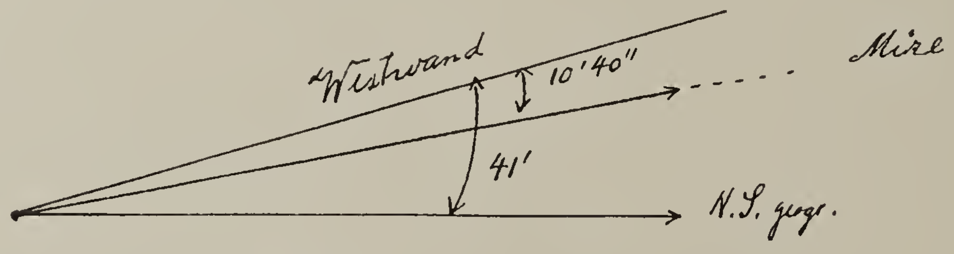
Futuros estudios mas minuciosos en el terreno, no solo desde el punto de vista astronómico, sino del arqueológico, paleontológico, geológico, etc., han de permitir precisar cual de los dos valores habrá que aplicar para determinar la edad del II Peridio de Tihuanacu, en el que fué construído el Templo del Sol Kalasasaya.

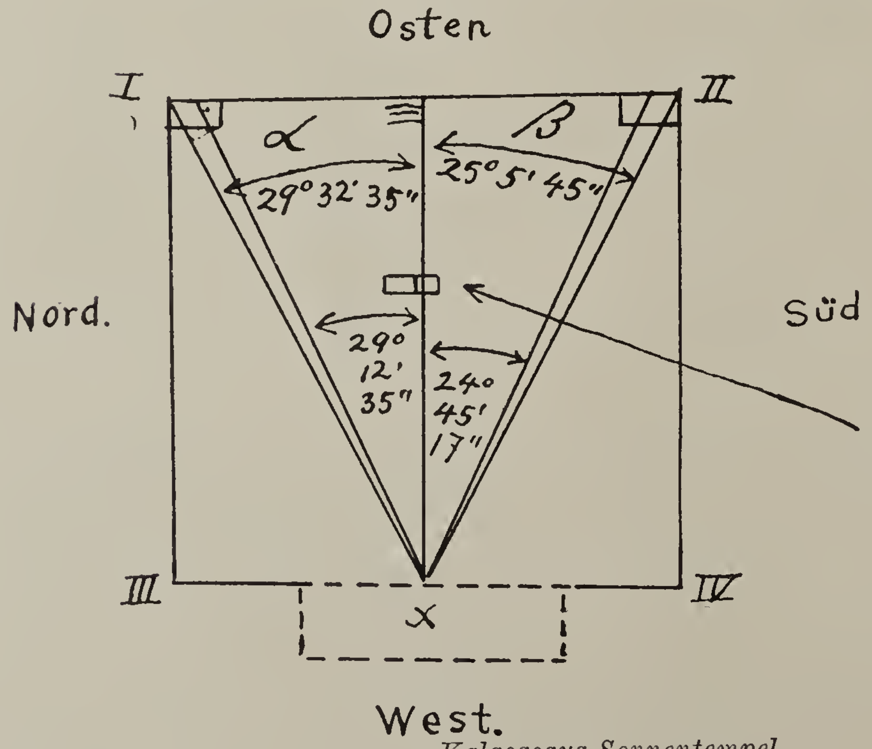
Mientras tanto, sigamos trabajando allá para proporcionar a la ciencia americanista más datos que ayuden a la resolución de este importante problema o sea, la edad del monumento más importante que dejó el hombre prehistórico, como documento de su saber.

ANEXO

ACTA

Bei dem Aufenthalt in Tihuanacu während der Tage 21; 22; 23; Juni des Jahres 1928 wurden von den unterzeichneten Herren Doctor Rolf Müller und Professor Ing. Arthur





Observationspunkt der Priester der 3. Periode und höchster Punkt des Tempels. (Material: Trachit.)

Kalasasaya-Sonnentempel

---

[4] Es una promisa mía que requiere una previa comprobacion, con estudios futuros.

Posnansky folgende Feststellungen gemacht. Ersterer Chef der Astronomischen Mision des astrophisikalischen Institutes der Sternwarte Potsdam in La Paz. Der andere: President des Instituto Tihuanacu de Antropologia, Etnografia y Prehistoria. in La Paz (Bolivia).

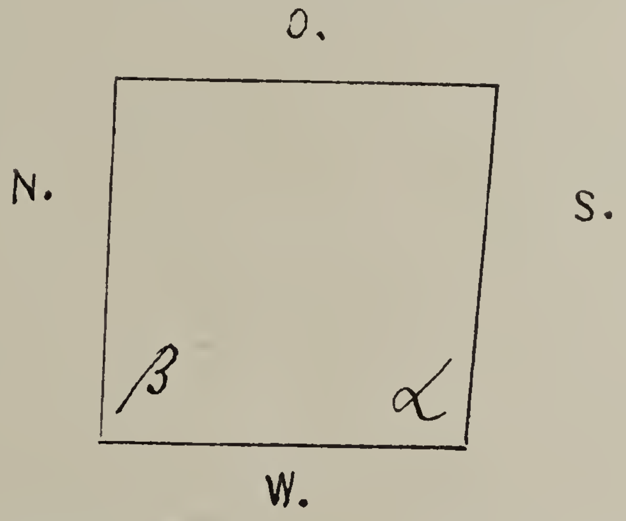
Benütztes Instrument: Teodolith Nr. 1756 Firma: Rosenberg. Berlin. Länge des Rohres = 30 cm. Die Desviation der Westwand des Sonnentempels "Kalasasaya" gegen die geographische Nord-Südrichtung beträgt: 41′ (Cenützten Sterne β Centauri, β Crucis, δ Muscae.) Die desviation der Westwand eines unvollendeten Palastes an der Westseite des Sonnentempels gelegen und "Palacio" genannt, beträgt: 40′ 5″. Die Desviation der "Mire" die sich auf der Süd-flanke des Berges "Quimzachata" als ein weisser Fleck bemerkbar macht beträgt gegen die Westwand vom Sonnentempel Kalasasayá: 10′ 40″.

Winkel Alpha dessen Scheitel in der Mitte der Linie III–IV liegt und dessen linker Schenkel die Mitte des Pfeilers I. schneidet: . . . 24° 12′ 35″.

Winkel Beta Idem Id. zur Mitte des Pfeilers II.	24° 45′ 17″
Winkel Alpha Idem Id. zur Aussenkante des Pf. I.	24° 32′ 35″
Winkel Beta Idem Id. zur Aussenkante des Pf. II.	25° 5′ 45″

Höhe des scheinbaren Horizontes von der Freitreppe nach Osten (Aufgangspunkt der ⊙.) = 2° 34′ 50″.

Winkel im Palast (Palacio)



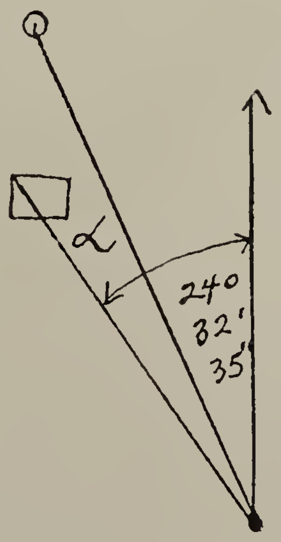
Alpha = 90° 38′ 45″ Beta = 90° 14′ 35″

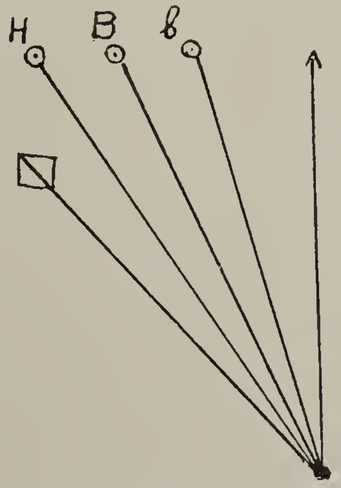
Abweichung der "Mire" gegen die Westwand des Palacio: 1° 33′ 4″

Höhe der Mire von der NW Ecke des Palastes gesehen: 3° 4′ 40″

Sonnenaufgang am 21 Juni des Jahres 1928. (Über einem Wolkenstreifen) wahrer Azimut gegen den Observationspunkt:—

Alpha = 2° 2′ 50″





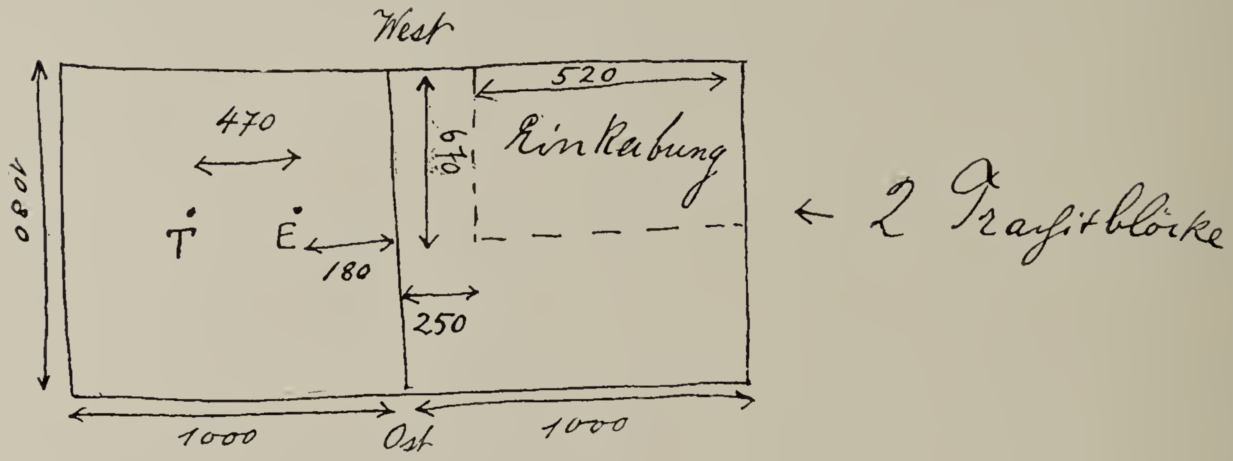
Die Schiefstellung der Ekliptik betrug am 21 Juni 1928 . . . 23° 26′ 52.8″

⊙ b = die beobachtete Sonne
⊙ B = die Sonne über dem Berge aufgehend (Osthorizont)
⊙ H = die Sonne im wahren Horizont aufgehend

Beobacht:
⊙ b = 22° 29′ 45″
⊙ B = 23° 52′ 35″
⊙ H = 24° 27′ 35″
Azim. Pfeiler I. = 24° 32′ 35″ (Aussenseite)
Winkel ⊙ B – Azimut Eckpfeiler I = 40′

Eingemeisselte Marken die wir zur späteren Komprovation hinterliessen.
Am Observationstein der damaligen Priesterastronomen.
T = Zentrumslinie von X zum Zentrum des Tempels
E = Zentrumslinie von X zum Zentrum der Freitreppe

Die Maase sind in Milimeter.



Tihuanaku am 23 Juni 1928.

PROF. ING. ARTHUR POSNANSKY DR. ROLF MÜLLER

INSTITUTO TIHUANACU DE ANTROPOLOGIA,
ETNOGRAFÍA Y PREHISTORIA,
LA PAZ, BOLIVIA.

LA ANTIGÜEDAD DEL HOMBRE EN LA REGIÓN DE SAYAPE, PROVINCIA DE SAN LUIS, REPÚBLICA ARGENTINA (NOTA PRELIMINAR)

Por Héctor Greslebin

En el año 1919 conocí por vez primera la región de Sayape ubicada en el ángulo N.E. de la llamada "Travesía" puntana, alcanzando tambien la laguna "El Colorado" al oeste de la misma y reconociendo, en general, el conjunto de las características e inestables hondonadas que produce la acción erosiva del viento en el terreno suelto y arenoso de estos parajes. En esta ocasión no me fué dado recoger material de estudio, vale decir, que aún la erosión del viento no había puesto al descubierto los restos de industria humana y de especies extinguidas cuya contemporaneidad habría mas tarde de sospechar por las condiciones de los hallazgos.

Al año siguiente me establecí en la región de Sayape y tuve, asi, ocasión de realizar numerosas excursiones por estos alrededores. Recién en Febrero de 1923 observando la hondonada llamada "El Aguila" pude descubrir los restos de un pequeño taller, hallazgo simultáneo al de huesos fósiles de animales extinguidos para los parajes marcados con los números 1y 1a en el plano adjunto (Fig. 1).

Frente a estos hechos, revelados por la acción erosiva del viento, realisé en ese mes de Febrero de 1923 una serie nueva de excursiones, reconociendo 14 parajes con restos arqueológicos y paleontológicos, habiendo sido comunicado el resultado de estas investigaciones el 19 de Mayo de dicho año en una lectura patrocinada por la Sociedad Argentina de Estudios Geográficos "Gaea."[1]

Decía en aquella ocasión:—

> "Vemos, pues, por la relación fisiográfica, que *a priori*, debemos descartar estas lagunas modernas en el estudio de los objetos hallados. La dispersión y el alejamiento de algunos yacimientos de dichas lagunas robustece nuestra hipótesis. Digno es de notarse el escaso material hallado hasta ahora en cada paraje. Con seguridad, si los médanos continúan ahondándose, tendremos nuevas muestras de industria lítica junto a huesos fósiles pertenecientes a especies extinguidas. La presencia de un megaterio junto con industria humana en un yacimiento y la presencia de esta misma industria con cinco pequeños fragmentos de cráneo humano presentando el mismo tipo de fosilización del megaterio en otro yacimiento, induce a pensar, despues de la reflexiones apuntadas, sin la menor violencia, en la contemporaneidad de este mamífero con el hombre en dicho paraje de Sayape."

Manifestaba al mismo tiempo mi opinión de que estos yacimientos fuesen estudiados por los especialistas en el mismo lugar.

En mi nuevo cargo de Conservador de las colecciones arqueológicas del Museo Nacional de Historia Natural tuve nuevas oportunidades para seguir vigilando esta región, siempre esperanzado en que la acción erosiva del viento pusiese al

---

[1] Greslebin, Héctor, *Fisiografía y noticia preliminar sobre arqueología de la región de Sayape*, Buenos Aires, 1924.

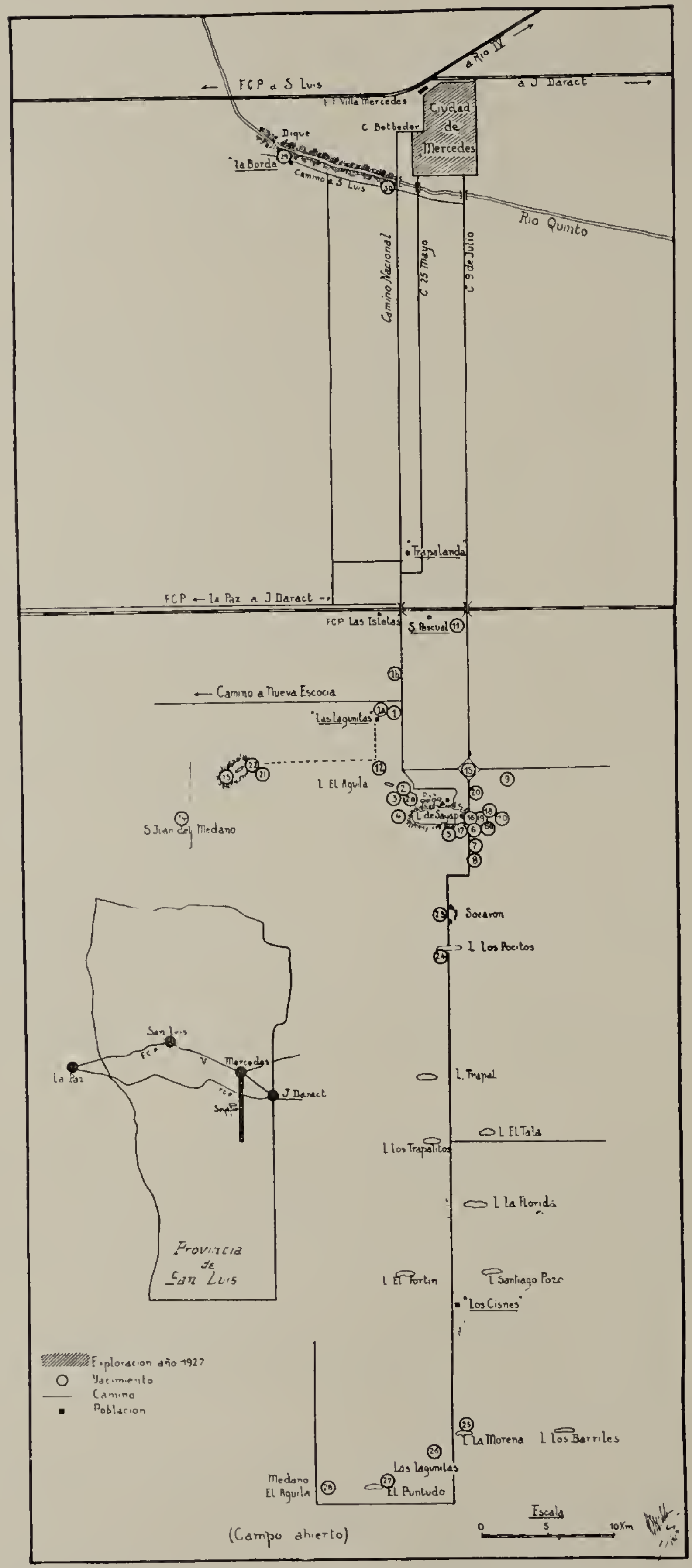

a Rio IV
FCP a S Luis
a J Daract
F F Villa Mercedes
Ciudad de Mercedes
C Betbeder
Dique
la Borda
Camino a S Luis
29
30
Rio Quinto
Camino Nacional
C 25 Mayo
C 9 de Julio
Trapalanda
FCP ← la Paz a J Daract →
FCP Las Isletas
S Pascual
11
1b
← Camino a Nueva Escocia
Las Lagunitas
1a
1
22
21
13
12
L El Aguila
2
3
2a
4
L de Sayape
15
9
20
16
19
18
10
5
17
6
6a
7
8
14
S Juan del Medano
23
Socavon
24
L Los Pocitos
San Luis
FCP
V
Mercedes
La Paz
J Daract
Sayape
L. Trapal
L El Tala
L Los Trapalitos
L La Florida
Provincia de San Luis
L El Fortin
L Santiago Pozo
"Los Cisnes"
Exploracion año 1927
Yacimiento
Camino
Poblacion
25
L La Morena
L Los Barriles
26
Los Lagunitas
Medano El Aguila
28
27
El Puntudo
(Campo abierto)
Escala
0
5
10 Km

Fig. 1—PLANO DE LA REGIÓN DE SAYAPE Y DE SUS ALREDEDORES EXPLORADA EN EL AÑO 1927 POR LA COMISIÓN DEL MUSEO NACIONAL DE HISTORIA NATURAL DE BUENOS AIRES, INTEGRADA POR EL GEÓLOGO DOCTOR JOAQUÍN FRENGUELLI, POR EL ARQUEÓLOGO HÉCTOR GRESLEBIN Y POR EL AYUDANTE DE PALEONTOLOGÍA DEL MUSEO SEÑOR LORENZO PARODI

descubierto nuevos restos para generalizar los hallazgos. Asi, al regresar de una excursión a la región de Chischaca (al oeste de Sayape) en compañía de mi colega el Doctor Alberto Castellanos en Diciembre de 1925 revisé nuevamente algunas hondonadas recogiendo algunos pocos restos trabajados. En enero de 1927 al regresar de una nueva excursión a la misma provincia en las inmediaciones de la estación Balde volví a pasar por Sayape.

Fué en esta ocasión que el señor Bartoldo Stahl encargado del establecimiento "Las Lagunitas" de propriedad de los señores Delfino hermanos me comunicó que en el yacimiento por mí denominado 1a, próximo a las poblaciones, el viento había puesto al descubierto nuevos fragmentos de huesos fósiles. Recogí esos nuevos restos y se comprobó que algunos de los fragmentos presentaban huellas sospechosas de ser trabajo intencional del hombre.

Ante esta novedad incluí en el plan de excursiones que debía ese año realizar la Sección a mi cargo, una nueva excursión a Sayape, solicitando ser acompañado por un geólogo y por un paleontólogo, anhelo ya expresado en 1924 al llamar la atención de los estudiosos sobre este paraje en mi primer publicación. La Dirección del Museo invitó al señor Profesor Doctor Joaquín Frenguelli de la Universidad del Litoral para que me acompañara en esta nueva excursión a fin de que mas tarde expresara su autorizada opinión sobre las condiciones fisiográficas y geológicas en las cuales se realizan estos hallazgos.

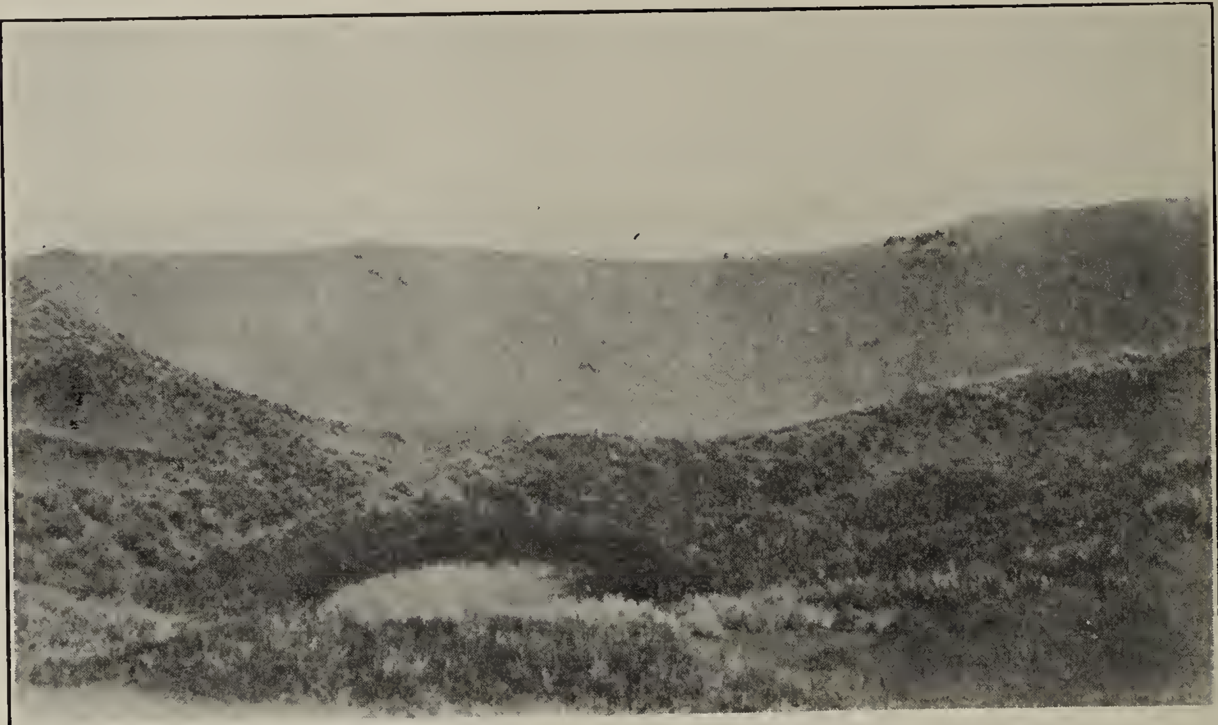
El Doctor Frenguelli, que accedió gentilmente a la invitación formulada, ha comunicado al Museo en un amplio informe el resultado de sus observaciones al señor director, Profesor Martin Doello Jurado. El señor Lorenzo Parodi, ayudante de la Sección de Paleontología del Museo integró tambien la comisión de estudio y el Profesor Lucas Kraglievich jefe de la Sección de Paleontología ha estudiado y clasificado las piezas recogidas en la excursión.

Cumple ahora dar cuenta en esta nota preliminar del conjunto de mis observaciones concernientes a la contemporaneidad del hombre con los mamíferos extinguidos en la región de Sayape, quedando tambien consignadas con ellas las opiniones correspondientes del Doctor Frenguelli acerca de las condiciones fisiográficas y geológicas de la región estudiada y la reseña preliminar de los restos fósiles colectados por el señor Lorenzo Parodi, realizada por el Profesor Lucas Kraglievich.

Al sur de la estación Las Isletas del F.C.P. comienzan los verdaderos médanos continentales, desapareciendo completamente los árboles. Las ondulaciones del terreno se cubren con fuertes cordones de médanos sobre los cuales el viento y las lluvias actuan constantemente formando enormes depresiones u hondonadas en las cuales se han realizado hallazgos de restos humanos fósiles asociados a huesos de animales pertenecientes a especies extinguidas.

Los parajes nuevamente estudiados en 1927 fueron los alrededores de las lagunas de Sayape, El Aguila y El Colorado, situadas aproximadamente a dos y media leguas al sur de la via del citado F.C.P. Luego, se practicó una excursión 14 leguas al sur de esta región cruzando la laguna de Los Pocitos y estudiando las lagunas El Puntudo, La Morena, Las Lagunitas y médano El Aguila, a fin de establecer en esta alejada zona sur comparaciones con la región de Sayape.

Ya he tenido ocasión de ocuparme en el año 1924 en mi publicación *Fisiografía y Noticia Preliminar sobre Arqueología de la Región de Sayape* del origen de las excavaciones eólicas en forma de cráter que comienzan siempre donde el viento encuentra un obstáculo (generalmente un árbol), orientándose de esta manera y transportando la arena removida y aflojada por el pisoteo de la hacienda. Estas excavaciones terminan generalmente en grandes hondonadas y en lagunas (Fig. 2), ofreciendo el terreno una serie numerosa de ejemplos con las



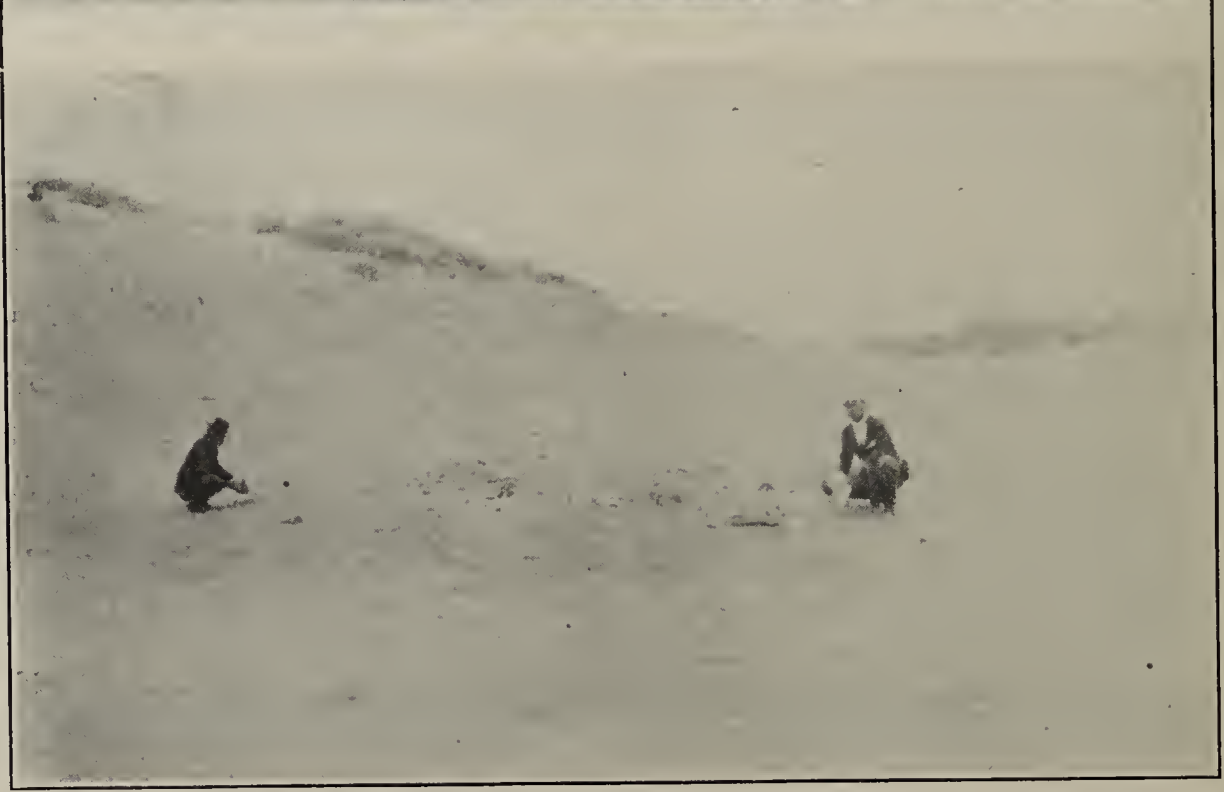


FIG. 2—PEQUEÑA LAGUNA AL INTERIOR DEL MÉDANO NÚMERO 4, AL SUR DE SAYAPE

FIG. 3—YACIMIENTO DENOMINADO MÉDANO "EL AGUILA" (NÚMERO 28) CONTENIENDO HUESOS FÓSILES DE MAMÍFEROS E INDUSTRIA HUMANA. LA FOTOGRAFÍA MUESTRA LA DISPOSICIÓN CARACTERÍSTICA DE LOS RESTOS SEGÚN PUEDE OBSERVARSE EN TODOS LOS YACIMIENTOS

diversas fases del proceso, series que en los reconocimientos efectuados en esta última excursion de 1927 ha podido ser ampliada y completada.

El Profesor Lucas Kraglievich en su reseña preliminar de los restos fósiles colectados refiere gran parte de un esqueleto exhumado por la Comisión Científica ya mencionada en el paraje denominado ''El Aguila,'' a *Megatherium Lundii;* junto a este convivió en San Luis otro megaterio mayor que el Lundii, al que Kraglievich considera subespecie y lo designa con el nombre de *Megatherium americanum Greslebini.* Halláronse además restos de *Scelidotherium, Panochtus, Toxodon, Macrauchenia, Equus, Lama, Ctenomys,* etc. Consistiendo el hallazgo de mayor importancia en una serie de huesos del género *Pararctotherium,* pertenecientes a una nueva especie denominada *Pararctotherium Parodii,* el cual era un oso de tamaño mediano, de talla mas o menos igual al oso blanco viviente.

Según opinión del Doctor Frenguelli:—

> ''Los escasos restos fósiles hallados *in situ* consistieron en algunas porciones de huesos y dientes de *Megatherium,* fragmentos de huesos de *Auchenia* y algunos cráneos de *Ctenomys.* Los restos de *Megatherium* se hallaron incrustados en las arenas correspondientes al primer ciclo sedimentario (*bonaerense*) y formando el fondo de las excavaciones mas profundas, mientras los demas asomaban de la pared de perfiles cortados en las arenas del segundo y tercer ciclo (post-pampeano). Los restos de *Megatherium,* mas pesados, agrietados por rajaduras de contracción y mas frágiles, aparecían en un estado de fosilización mucho mas avanzado que el de los demás restos. Por lo que se refiere al estado de las piezas sueltas, teniendo en cuenta sus condiciones de fosilización en comparación con las piezas *in situ* (particular importante en este caso dada la relativa homogeneidad de los diversos sedimentos), ellas pueden dividirse en dos grupos diferentes según que participen de los caracteres de fosilización de los restos de *Megatherium* o de *Auchenia* y *Ctenomys.* De este modo, en el primer grupo debemos incluir restos de *Megatherium, Scelidotherium, Lestodon, Eumylodon, Panochtus, Auchenia, Equus, Rhea,* que evidentemente derivan del desgaste de los sedimentos arenosos del primer ciclo; al segundo grupo corresponden, en cambio, restos de *Ctenomys, Auchenia, Felis, Dasypus, Chlamydophorus, Rhea,* etc., que proceden de la remoción de los sedimentos arenosos del segundo y tercer ciclo.
>
> ''Un particular digno de tomarse en mucha consideración es que, mientras que en el fondo de las excavaciones mas profundas hallamos promiscuamente restos fósiles pertenecientes a ambos grupos, en cambio, en las hondonadas cuya excavación no alcanza a afectar los sedimentos arenosos del primer ciclo (*bonaerense*), faltan constantemente los restos fósiles de tipo pampeano correspondientes al primer grupo.''[2]

Por mi parte debo hacer notar de que siempre he observado el material arqueológico, paleontológico y antropológico directamente colocado encima de la arena perteneciente a este primer ciclo *bonaerense.* Así, esos huesos de *Megatherium* de la Fig. 3 pertenecientes a la excavación número 28 denominada médano ''El Aguila'' yacen directamente sobre el manto arenoso del primer ciclo de acumulación eólica, no penetrando ninguno de sus fragmentos de una manera franca en la capa inferior.

A propósito de estos restos fósiles faunísticos dice el señor Parodi en su informe:—

> ''Se puede casi considerar como regla general que se conservan todos los huesos del esqueleto de cada animal, si bien destruidos a menudo por el pisoteo del ganado, lo que indica tambien

---

[2] Frenguelli, J., Nota Preliminar sobre las Condiciones Fisiográficas y Geológicas de la Region de Sayape, *Archivo del Museo Nacional de Historia Natural,* p. 11, Santa Fe, Julio 16 de 1927.

que dichos animales han muerto en el lugar en que se encuentran y que el terreno, en general no ha sido removido mientras vivió esa fauna ni posteriormente, hasta épocas muy recientes.''

Al lado de estos mismos restos he encontrado, a tres metros de distancia del *Megatherium,* en la misma excavación, dos hermosas puntas de flecha, las que tambien deben considerarse no removidas, pues estas hondonadas son sumamente recientes y hace ya muchos años que las indiadas no recorren estos parajes.

Según lo muestra la Fig. 3 estas son, para mí, las condiciones en las cuales se ha encontrado siempre, en las numerosas hondonadas examinadas, el material arqueológico, paleontológico y antropológico, sin dejar de reconocer que, por excepción, pueden haber penetrado algo en la capa inferior aquellos pequeños fragmentos de Megatherium que menciona el Doctor Frenguelli en su informe. Pero nunca hemos encontrado un esqueleto entero, o partes importantes de esqueletos francamente enterradas en las arenas de este primer ciclo de acumulación eólica.

Si en el caso del material paleontológico el hecho de conservarse los fragmentos del animal mas o menos próximos es una circunstancia que permite considerarlos *in situ* puedo citar fragmentos de conanas que se corresponden en la misma excavación y aún mas, los fragmentos de cráneo encontrados por mí en 1923 tocan con dos de los nuevos fragmentos encontrados en 1927 en una paraje solo distante 30 metros del anterior, pero en la misma excavación, puestos recien en esa fecha al descubierto por la intensidad de la erosión (Fig. 4).

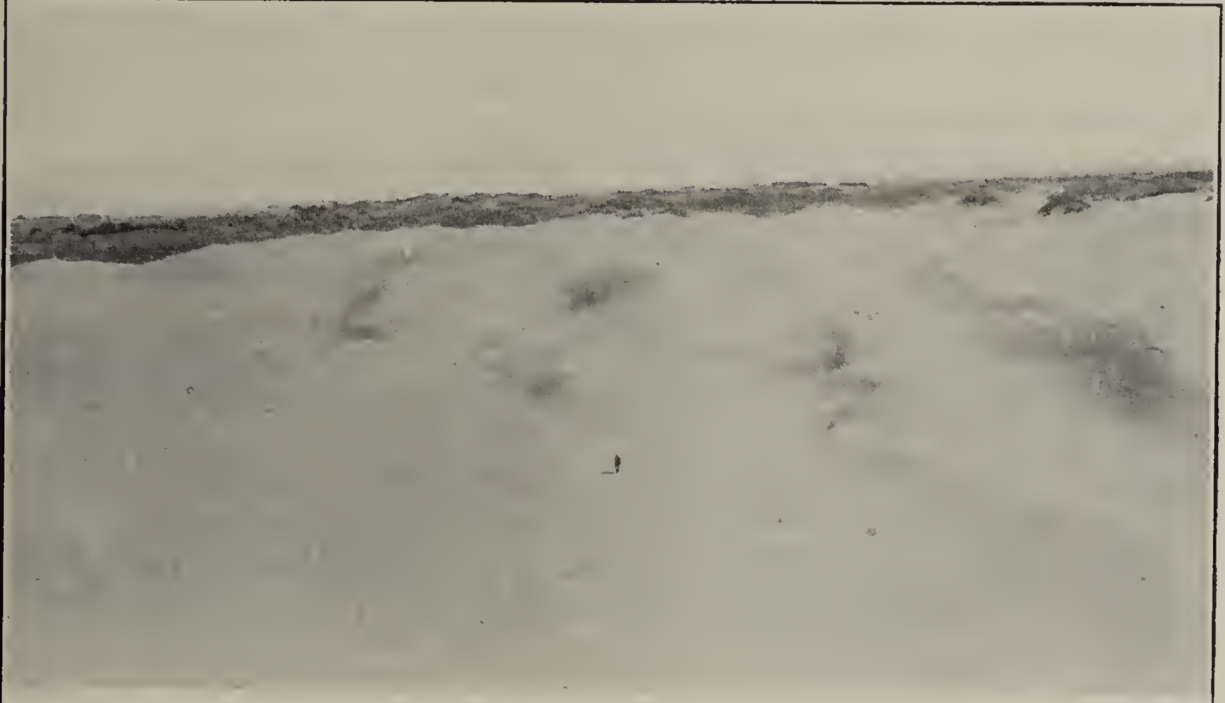
Quiere esto decir, que si el material paleontológico se considera *in situ,* porque a este nivel los fragmentos próximos se corresponden, para el material antropológico y arqueológico debemos hacer las mismas consideraciones y referirlo al mismo nivel de los restos paleontológicos.

Según la opinión del Doctor Frenguelli los restos industriales son de posición originariamente muy superficial y muy recientes en sentido geológico, si no histórico.

Por otra parte reconoce el Doctor Frenguelli en su informe que se puede sostener la contemporaneidad del hombre con los restos fósiles faunísticos, no solo por consideraciones teóricas y ejemplos análogos traídos de otros yacimientos sino tambien sobre vestigios observados localmente y dice que:—

> ''Sin embargo, en los huesos de mamíferos de tipo pampeano es posible reconocer algunas incisiones de origen algo dudoso, puesto que no se pueden atribuir a las comunes mordeduras: son tajos en serie, aplicados oblicuamente sobre todo a lo largo de crestas óseas y no se puede excluir completamente que ellos fueron aplicados intencionalmente, con un cuchillo lítico, con el objeto de desprender inserciones musculares.''

Yo, por mi parte, no dejo de reconocer que en ciertos casos pueden algunos de estos restos industriales encontrados provenir de niveles superiores, sobre todo en lugares muy visitados actualmente y que tambien lo habrán sido en época histórica, como ser los bordos de la laguna de Sayape y las barrancas del rio V. Pero, a mi modo de ver, seria mas que coincidencia que, *en los 28 lugares reconocidos, sobre una extensión de 20 leguas, hubieran coincidido en cada caso, sobre una misma vertical, los restos fósiles de animales extinguidos con industria proveniente de pisos superiores.* Podrá haber alguna excepción para aquellos lugares próximos a las poblaciones, pero el criterio de cantidad, con idénticas caracteristicas en una zona de 20 leguas, en parajes sumamente despoblados, debe decidir, a mi modo de ver, sobre el nivel originario de estos numerosos hallazgos. Es este mismo criterio que me permite decir que todos los restos faunisticos encontrados no pertenecen a mi modo de ver a la capa considerada como *bonaerense* por el Doctor Frenguelli, excepción hecha de los pocos fragmentos de *Megatherium* citados.



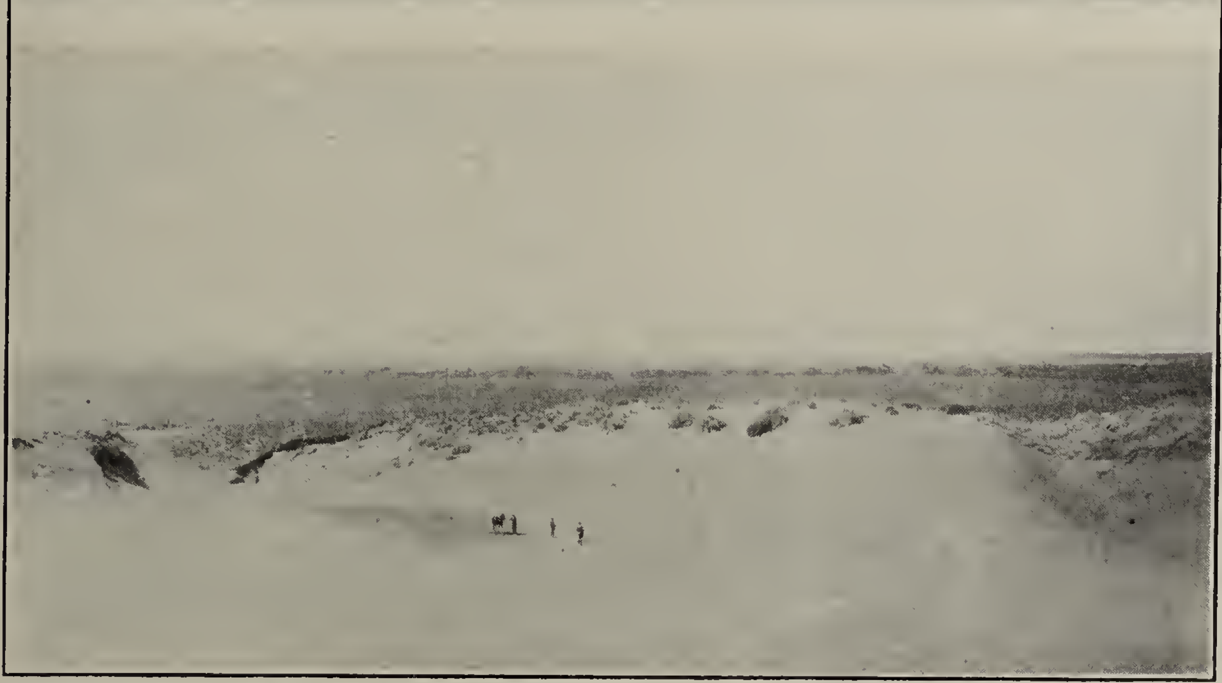


Fig. 4—INTERIOR DEL MÉDANO DE LA LAGUNA ''EL AGUILA'' (NUMERO 2) EN EL FONDO DEL CUAL SE ENCONTRARON EN LA EXCURSIÓN DE 1927 NUEVOS FRAGMENTOS DE CRÁNEO HUMANO FÓSIL, JUNTO CON INDUSTRIA HUMANA

Fig. 5—YACIMIENTO NÚMERO 15 QUE CONTENÍA RESTOS DE MEGATERIO, LOS CUALES ALCANZAN A ADVERTIRSE EN LA FOTOGRAFÍA POR LA PEQUEÑA MANCHA BLANCA QUE PRESENTA EL TERRENO JUNTO A LAS PERSONAS

Los caracteres tipológicos de los restos industriales no pueden en este caso sacarnos de duda, pues tenemos a la vista el caso de Miramar, donde en pleno estrato *Chapadmalense* se presenta una industria tanto o mas perfecta que muchas actuales a pesar de la enorme antiguedad que se asigna a este piso.

En el año 1923 al comunicar los resultados de mis investigaciones fuí talvez demasiado categórico al afirmar la contemporaneidad del hombre con el megaterio en esta región de Sayape, tan solo sobre la base del material suministrado por dos de los yacimientos reconocidos. Cierto es, que se reconoció que el grado de fosilización de los fragmentos de cráneo humano correspondia al grado de fosilización de los fragmentos de *Megatherium.*

Fuí nuevamente a Sayape en 1927, acompañado por el Doctor Frenguelli y por el señor Parodi dispuesto a ratificarme o rectificarme de mi primer afirmación sobre la contemporaneidad del hombre con los mamíferos extinguidos en esta región. La zona reconocida nuevamente es amplia, según puede observarse en el mapa de la Fig. 1 y los fenómenos anteriormente observados se han repetido, se han generalizado sobre una gran superficie.

Del conjunto de mis numerosas observaciones quedo definitivamente con la impresión de que el hombre ha convivido con estos mamíferos de tipo pampeano en la región de Sayape, no solo por consideraciones teóricas, sino tambien por hechos observados localmente. Un estudio detallado, completo, en el cual se expondrán todas estas observaciones y en el que se realizará las debidas comparaciones con el material moderno extraido en las diversas excursiones realizadas por el personal del Museo a esta provincia de San Luis, sera publicado mas tarde.

Mientras tanto, puedo resumir para esta nota preliminar el conjunto de mis observaciones como sigue:—

I. Los fragmentos de cráneo humano fósil encontrados en el yacimiento 2 presentan el mismo tipo de fosilización de los restos faunisticos de tipo pampeano encontrados en los demas yacimientos.

II. En todos los parajes recorridos, a mi modo de ver, no fué encontrado un solo esqueleto, ni restos industriales, ni los fragmentos de cráneo humano fósil francamente *in situ.* Hacen excepción los pequeños fragmentos de megaterio citados por el Doctor Frenguelli. Es decir, que yacen todos estos vestigios en la misma hondonada, en el mismo plano, directamente sobre el manto arenoso sincronizado por el Doctor Frenguelli con el *bonaerense* y luego, toda consideración hecha acerca de la posición originaria de los restos de mamíferos fósiles es tambien válida para los restos industriales encontrados al lado de ellos.

III. Algunos huesos fósiles recogidos junto con industria humana, por el buen estado de conservación que afectan las superficies de sus caras indican que no han sufrido la erosión de la arena y del viento en momento alguno. No pueden, pues, haber llegado hasta ellos en época mas moderna los restos industriales que se encuentran a su lado sin hacerse presente esta acción erosiva de la arena y de las aguas sobre los huesos, los que estarían directamente al descubierto y está demostrado que estas depresiones son sumamente modernas, algunas de pocos años, no existiendo en época anterior a 1916.

IV. Salvo en aquellos lugares próximos a la laguna de Sayape, que son en la actualidad sumamente visitados, y en aquellos próximos a la ciudad de Mercedes, no se ha encontrado en las hondonadas, con los otros restos, ningún vestigio moderno.

V. Los tajos en serie aplicados oblicuamente, sobre todo a lo largo de las crestas óseas de los huesos, no pueden excluir completamente, según la opinión del Doctor Frenguelli, que fueron aplicados intencionalmente, con un cuchillo lítico, con el objeto de desprender inserciones musculares.

Por todas estas consideraciones quedaría demostrada, a mi modo de ver, la contemporaneidad del hombre con los mamíferos extinguidos de la serie pampeana en una provincia mas del territorio argentino.

Museo Nacional de Historia Natural Bernardino Rivadavia,
Buenos Aires.

COMECHINGON POTTERY

By G. A. Gardner

Introduction

THE COMECHINGONS

WHEN, in the latter half of the sixteenth century, the Spaniards penetrated that part of the ancient province of Tucumán which is now the Argentine province of Córdoba, they found the mountains of the northwest occupied by Indians who had reached a comparatively advanced state of culture. Cabrera, one of the Spanish governors of the province, has left an account of a journey made by him in 1572 through part of the territory under his jurisdiction, in which he gives a number of interesting details about the native inhabitants.[1] These, who were called, by themselves, or by the Spaniards, Comechingons, lived in small villages of from ten to forty houses, inside an enclosure of cactus and thorny bushes. The houses were very large, low, and semi-subterranean, about half of their height showing above ground; each house sheltered four or five families and the whole village was occupied by a group of families related to each other. They cultivated the ground, which they irrigated artificially and had domesticated the llama (a smaller kind, apparently, than that of Peru), from whose wool they made clothing, consisting of long tunics and cloaks which were adorned with small disks of snail shell, and it would seem that they had copper ornaments, such as pins, bracelets and frontlets. The estimates made by the Spanish chroniclers of the sixteenth and seventeenth centuries as to the number of Indians, are probably not very accurate, but there is no doubt that the native population at the time of the Conquest was relatively large and that it rapidly diminished. Not much more than a century and a half after the foundation of the city of Córdoba in 1573, the number had sunk to a few hundreds[2] and they and their language have long been utterly extinct. The only records now left of their existence are the potsherds, stone implements, and weapons found on the old sites of their villages, the mortars hollowed in the rocks near them, and paintings on the roofs and walls of rock-shelters.

THE MOUNTAINS OF NORTHWEST CÓRDOBA

Córdoba is one of the central provinces of the Argentine Republic and most of it is level plain or *pampa,* but in the extreme west about a sixth of its extent is occupied by a mountain system, the Sierras de Córdoba, consisting of three parallel chains, running from north to south between 29° and 33° 40′ of latitude, and 63° 30′ and 65° 10′ of longitude west of Greenwich. These are separated from each other by wide valleys, into which project the lateral branches of the main ranges. The region with which we are here chiefly concerned is part of the valley lying between the most easterly of the three ranges, the Sierra Chica, and the eastern ramifications of the central chain, the Sierra Grande, which is included in the northern part of the department of Punilla (Fig. 1).[3] From the highest point of the valley there flow northward a number of streams, for the most part, mountain torrents, which, issuing from the many narrow and precipitous ravines on the western flank of the Sierra Chica, eventually unite to form a stream of some importance, known as the Dolores. It is along the course of this stream that traces of ancient occupation are most evident.

---

[1] Cabrera, Jerónimo Luis de, Relación sobre los descubrimientos de Don Gerónimo Luis de Cabrera en las provincias de los Juríes, *Relaciones geográficas de Indias,* Perú, tomo II, p. 140 *et seq.*

[2] Lozano, Pedro, *Historia de la conquista del Paraguay, Río de la Plata y Tucumán.*

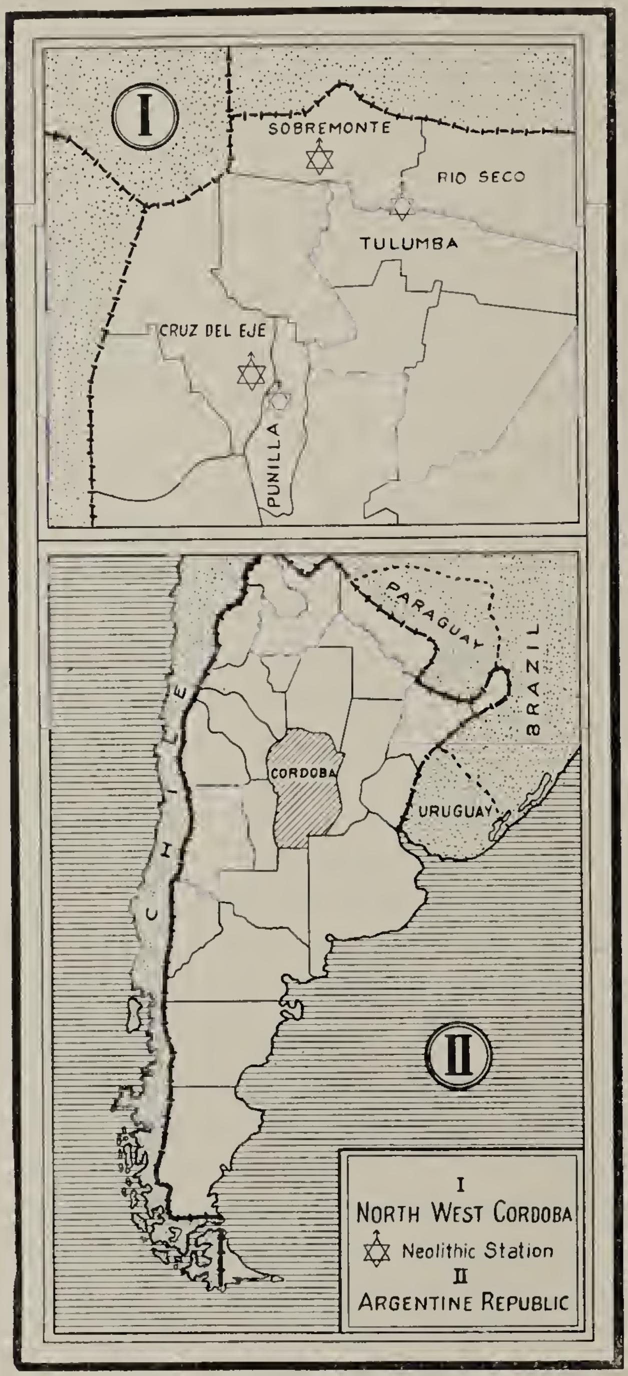


FIG. 1—SKETCH-MAPS OF NORTHWEST CÓRDOBA AND THE ARGENTINE REPUBLIC

The eastern side of the Dolores Valley slopes gently down from the outlying spurs of the Sierra Chica. Much of it is now under cultivation, but the greater part of the ground is covered with the thorny trees and bushes characteristic of the region, chiefly *Leguminosæ,* whose twisted branches form in parts impenetrable thickets. The western side rises abruptly from the left bank of the river in a series of barren, rocky eminences and hills and everywhere the prevailing granite appears on the surface, either in isolated masses of huge, weathered blocks, or in undulating outcrops of great extent. With the exception of the poplars and willows surrounding the larger cultivated areas, and a few solitary *algarrobos* (*Prosopis nigra; P. alba*) in outlying spots, large trees are altogether absent. For purposes of identification, I have named the principal sites San Roque, Tablón, Balata, and Cañada del Novillo, from the localities at or near which they are situated. The sketch map (Fig. 2), although only approximate as regards distances, shows the relative position of the settlements, from which comes nearly the whole of the material dealt with in this paper. A small amount was found at several localities in the extreme northwest of the province, in the departments of Sobremonte, Tulumba, and Río Seco, chiefly in rock-shelters (Fig. 1).

---

[3] The pen and ink drawings are the work of my wife, and I have to thank the draughtsmen Messrs. T. Dalle Nogare and Juan Primiano for preparing the maps and the many sectional and outline drawings from my originals.

SAN ROQUE

The ground occupied by the San Roque settlement consists of two parts, a narrow strip of level ground close to the mouth of the Cruz River and the top of a low hill behind. Along the level banks of the Cruz there are cultivated patches, sheltered by rows of fine poplars, but the greater part of the ground remains in its natural state, covered with low trees and woody shrubs, above all on the south and west sides of the hill, where they form dense thickets, composed almost exclusively of the *chañar* (*Gourliea decorticans*). In the open spaces were patches of ground denuded of vegetation by the action of rainwater, exposing quantities of potsherds and stone tools; a great many potsherds had been turned up by the plough on a strip of ground not far off. Most of the potsherds were plain, but there were a few with impressions of textiles and with incised ornamentation, together with one or two fragments of figurines.

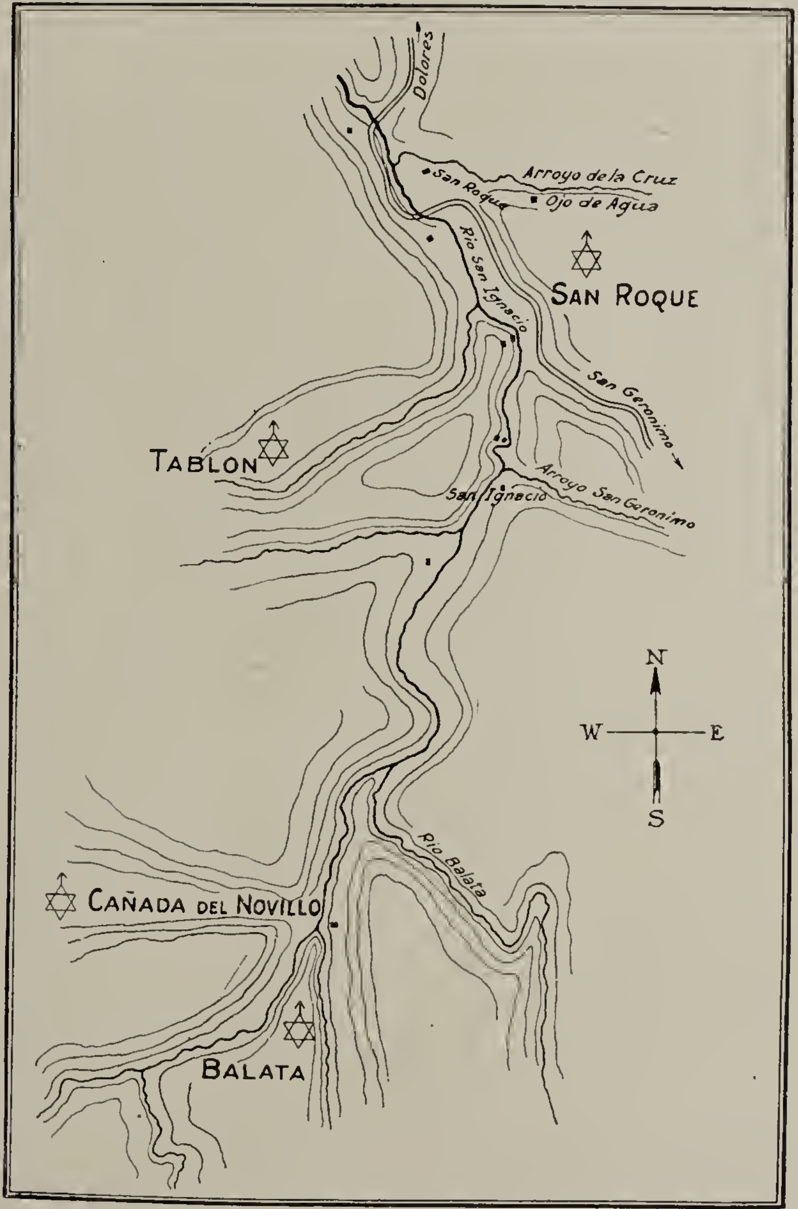


FIG. 2—SKETCH MAP OF THE BALATA-SAN IGNACIO VALLEY

TABLÓN

Opposite the San Roque ground, on the left bank of the Dolores, or San Ignacio, as it is called at this part, is the Tablón (Fig. 2), one of the many small streams of the district which run only during floods. On the top of its low bank is a level space about 200 m. in length and 65 m. in breadth, which has been taken advantage of, as are most of the few flat strips of this broken and rocky ground, for growing maize. The sandy soil was strewn with potsherds and stone tools, turned up by the plough and, among the rocks at the foot of a ridge bounding the ground on the north, were potsherds half buried in the soil. In the perpendicular face of the bank of the Tablón, at a depth of between ten and twenty cm. below the surface, were many fragments of pottery, mixed, in one place, with small pieces of charcoal. The potsherds are, for the most part, plain, but some bear incised designs, and a few show textile impressions. There is also the head of a pottery figurine.

BALATA

The Balata station (Fig. 2) lies nearly two kilometers up-stream from the Tablón, close to a point where the main stream (here called the Balata) is joined by a small tributary from the southwest, following which, the mouths of the two little torrents forming it are soon arrived at. They are separated from each other by a tongue of land, raised on high banks of claycy, compact soil (*loess*), much eroded, and on each side of this plateau, low, rounded hills rise in gentle slopes topped with crests of bare rock. Close to the junction of the two torrents, on the slope separating the Balata itself from its tributary, is a small adobe house and outbuildings in the shadow of a large *algarrobo*. Behind the house is a granite ridge, with several groups of mortars hollowed in the rock. On these mortars being cleared of the soil which filled them, several large fragments of a painted pot were found in one. On the tongue of the land already mentioned, there is nothing on the surface, which is covered with coarse grass and bushes of *tola* (*Colletia ferox*), but the banks are continually breaking away during the rainy season, particularly along the eastern side, where successive falls of blocks of *loess* have formed a number of steps or narrow platforms. Scattered over these, and among the sand and gravel in the channels cut by surface water, are innumerable potsherds and stone tools, while others are still embedded in the tenacious soil at depths varying from 30 cm. to 50 cm. below the surface. Near the edge of the eastern bank, where the covering of vegetable soil had been washed away, were some small heaps of burnt earth, very hard, which were broken up with difficulty. They yielded fragments of pottery, all, as usual, belonging to different vessels, and incapable of restoration, stone tools, split bones, loose plates from the carapace of a small edentate, and quantities of ostrich egg-shell. The earth was mixed with charcoal and a great deal of fine ash; almost the whole of the objects were covered with a calcareous incrustation and had been under the action of fire. It was, in fact, the site of the hearths and kitchen-middens of the community.

The pottery from this station consists of the head of a figurine, and a large quantity of potsherds, among which are some with incised or painted designs, while others bear imprints of textiles.

CAÑADA DEL NOVILLO

To the west of the Balata ground is the mouth of a narrow *quebrada,* which, after rising steeply for about a kilometer, ends in an elevated *cañada,*[4] which extends for a long way towards the northwest. (Fig. 2.) Close to the mouth of the *cañada,* scattered over a very limited extent of ground, were small fragments of pottery. The sides of the low hills which shut in the valley are covered with the usual stunted bushes, interspersed with a few *algarrobos* and the tree known as *sombra del toro* (*Iodina rhombifolia*). The whole of the flat surface of the *cañada* is thickly covered with long, coarse grasses, and low bushes of the aromatic *poleo* (*Lippia turbinata*). The ground is comparatively level and only slightly affected by erosion, so that very little was found on the surface, most of the potsherds and stone tools being buried under a covering of from 20 cm. to 50 cm. of loam; the roots of plants had penetrated the pottery and split it into small pieces. Among the many pottery fragments were some bases and handles and a number of sherds with incised designs.

---

[4] A *cañada* is the space between two mountains, eminences, or heights, not far from each other; a throat.

Here and there, slight elevations, surrounded by large stones, among which there appeared at times broken millstones, seemed to mark the sites of dwellings and one of them was excavated. Soon after beginning to dig, a bell-shaped stone ornament was found, followed by a number of hand millstones, some animal bones, a few flakes of stone, some of which had been under the action of fire, and a quantity of potsherds. At a depth of 80 cm. below the surface of the ground, there appeared what seemed to be the mouth of a large urn, blocked up with a great many angular stones. It was filled with very compact earth, mixed, towards the bottom, with charcoal and pieces of stick. When all the earth had been removed from the interior, it was seen that it was not, as had been supposed, an urn buried in the ground, but a circular excavation, 88 cm. in diameter and 95 cm. in depth, the walls of which had been plastered with clay and then baked by fire, either intentionally, with the object of using the cavity as a deposit for water or foodstuffs, or by use as an oven for cooking purposes, or for firing pottery. The walls were smooth and the burnt surface had a thickness of about 15 mm. Similar small pits, plastered inside with clay baked by fire, have been found in the provinces of San Luis,[5], La Rioja,[6] and Santa Fé,[7] and they are also known in the United States of America.[8]

The pottery found on the four sites just described was almost invariably in such a fragmentary state that any attempt at reconstruction was hopeless, but, nevertheless, it afforded indications of the kinds of vessels used, their shapes, and the methods of manufacture. There is no doubt that the pottery used, if not also manufactured in the locality, showed great variety in shape, size, and quality,

---

[5] Outes, Félix F., Algunos datos sobre la arqueología de la provincia de San Luis, *Physis, Revista de la Sociedad Argentina de Ciencias Naturales,* tomo 8, no. 30, pp. 295–302.

[6] Reyes, César, Bovedas funerarias de tierra cocida diaguitas, *Revista de Derecho, Historia y Letras, año XXII,* tomo 66, pp. 34–46, 1920. The author's theories, as to the cavities having served as burial vaults, and of their possible connection with a "fire cult," are without foundation.

[7] Frenguelli, Joaquin y De Aparicio, Francisco, Los paraderos de la margen derecha del Río Malabrigo (departamento de Reconquista, prov. de Santa Fé, *Anales de la Facultad de Ciencias de la Educacion,* tomo 1, pp. 101, 102.

[8] Cushing, Frank Hamilton, The Germ of Shore-Land Pottery, An Experimental Study, *Memoirs, International Congress of Anthropology,* p. 218.

Bushnell, David I., Archaeological Investigations in Ste. Genevieve County, Missouri, *Proceedings, United States National Museum,* vol. 46, p. 648. In the case mentioned by Bushnell, "the sides and bottom of the pit did not show any evidence of the action of fire."

and that the fragments to be described belonged, almost without exception, to vessels of ordinary domestic use, some being for cooking, some, perhaps, for the preparation of fermented drinks, and others for the storage of maize and other foodstuffs. Several potsherds have the broken edges ground down, some being reduced by this means to a roughly circular shape, possibly with the object of converting them into spindle whorls. A small number of handles were found, two of them from pots which had been moulded over baskets. A considerable number of fragments, including bases, walls, and segments of mouths, show impressions of textiles, and a great many are decorated with simple incised designs. Very few examples of painted ornamentation were found. Finally, there are a few fragments of human figurines.

THE POTTERY

I. PLAIN POTTERY

Among the many potsherds scattered over the ground, or buried at no great depth below the surface, were bases of pots, generally in fragments, but occasionally entire, and portions of lips. From these it was possible to calculate the original diameter of the bases and mouths of the pots, and, in some cases, to estimate the maximum diameter of the body of the vessel.

Bases. The bases of the pots vary a great deal, not only in size, but also in the shape of the external and internal surfaces. Based on this characteristic, they can be distributed among five types:—

Type	*Outer Surface*	*Inner Surface*
1	Concave	Convex
2	Concave	Concave
3	Flat	Concave
4	Flat	Convex
5	Flat	Flat

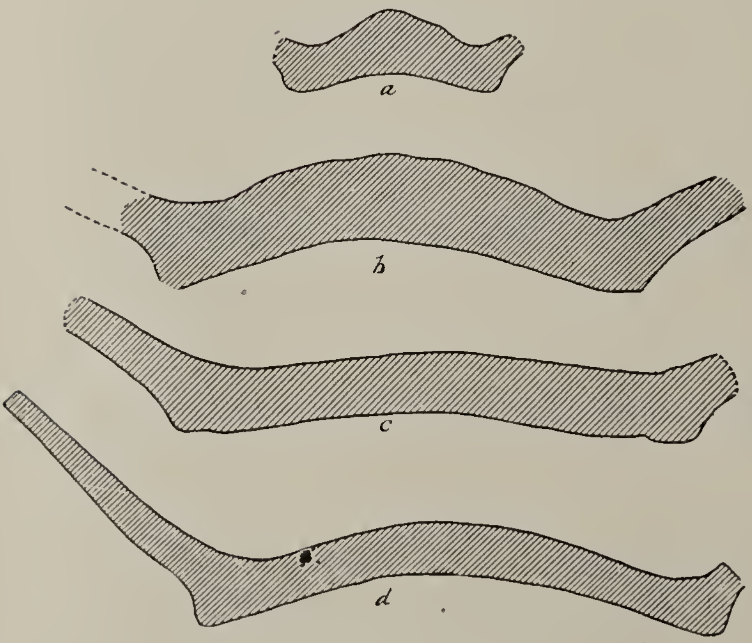


FIG. 3—SECTIONS OF BASES: *a–d*, TYPE 1

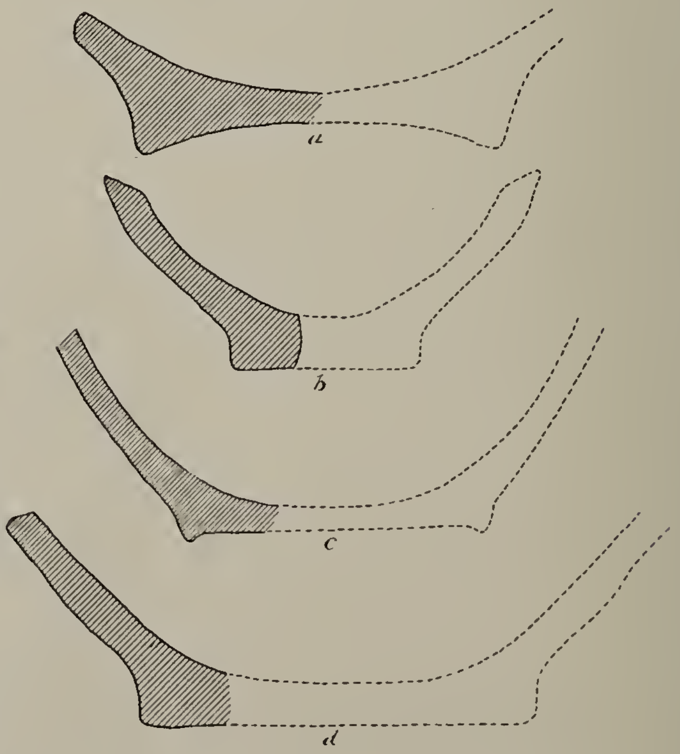


FIG. 4—SECTIONS OF BASES: *a*, TYPE 2; *b–d*, TYPE 3

There were some sixty bases of which the diameters could be measured or calculated. The smallest base was 26 mm. in diameter, the largest, 210 mm.; those of a less diameter than 50 mm., or a greater one than 150 mm. are rare, and the majority vary between 50 mm. and 100 mm. in diameter. The following figures show the different forms of base, of which Type 1 is the commonest, and whose characteristic, the external concavity, with the corresponding internal convexity, is in many cases very marked (Fig. 3 *a–d*). In pottery-making it is an almost universal custom to make the bottom of the pot first and the bases of Type 1 owe their shape, in all probability, to having been modeled on some kind of core or mould. Type 2 is represented in Fig. 4 *a*; Fig. 4 *b–d* show some of the examples of Type 3, all of small diameter, which does not exceed 80 mm. in the largest. Two are of so small a size, 26 mm. and 37 mm. in diameter, respectively, that they cannot have served any practical purpose, and were probably children's toys. Types 4 and 5 are shown in Fig. 5 *a–c,* the last (Fig. 5 *c*) being one of the very few examples of a base which is flat both internally and externally and the only pot the fragments of which were numerous enough to permit of complete restoration. It is remarkable that of all the modern Córdoba pottery I have seen, none has a base of any other kind than Type 5, the concave-convex form, so common in the old pottery, being altogether wanting.

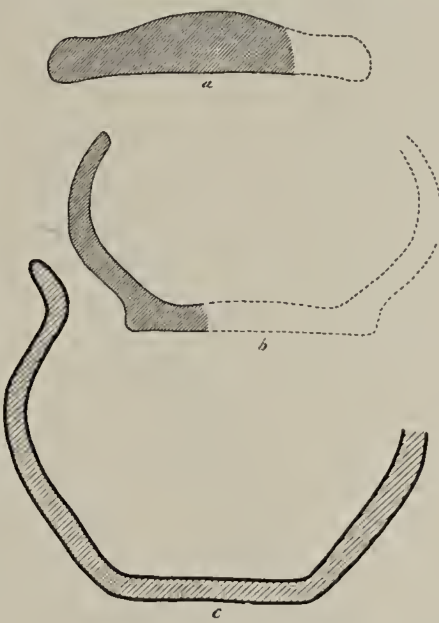


FIG. 5—SECTIONS OF BASES: *a–b*, TYPE 4; *c*, TYPE 5

Lips. Although among the potsherds there were a great number of pieces of rims, it was difficult to estimate the diameter of the mouths of the vessels to which they had belonged, since only a few were large enough to enable calculations to be made of the size of the openings. These, in the cases where they could be ascertained, varied from 60 mm. to 260 mm. in diameter, most of them being between 100 mm. and 150 mm. Figs. 6 to 10 show the many varieties of rims, the tops of which are generally rounded; but there are a few flat-topped examples, and some with an internal or external bevel. The thickness of the walls of the pots near the mouth varies from 3 mm. to 10 mm.; the average thickness is a little more than 6 mm.

Handles. A small number of handles were found (Figs. 11–13). Almost all are of the kind shown in Fig. 34, which is that of a modern earthenware pot made in Córdoba, and they were probably attached vertically in the same way, although it is possible that some were placed horizontally. Two of the examples belonged to vessels moulded over baskets lined with network or cloth, to which reference is made later; other two have a simple decoration of short incised lines, which, in one of the examples, are on the inner face of the handle. It is just possible that this fragment is not a handle, but part of a pottery figurine. Fig. 12 shows small handles in the form of knobs.

Not all the pots were provided with handles; for many, a cord, looped round the neck, or passed through holes made for the purpose just below the rim, served as a means of suspension. There are several fragments with these perforations, one of them part of the rim of a very thin-walled pot, with two holes, bored from both sides, apparently after firing (Fig. 14 *b*). Below the right hand perforation, another is to be seen, made from the inner face of the fragment, but it is the work of a burrowing insect. Some of the potsherds dug out at the Cañada del Novillo are pitted all over with the beginnings of similar circular holes. There are other potsherds with holes for suspension, some made before firing, others after, the

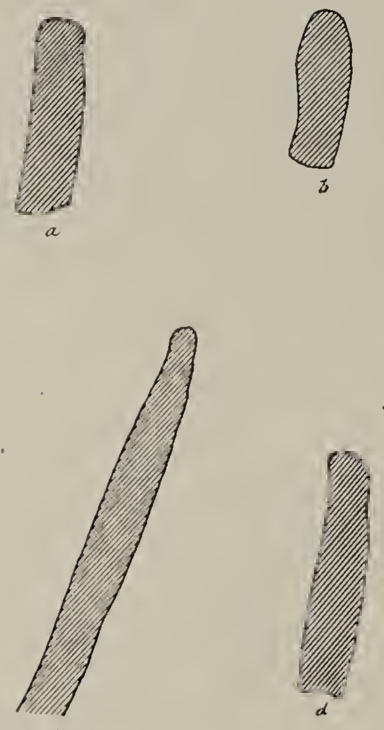


Fig. 6—sections of rims

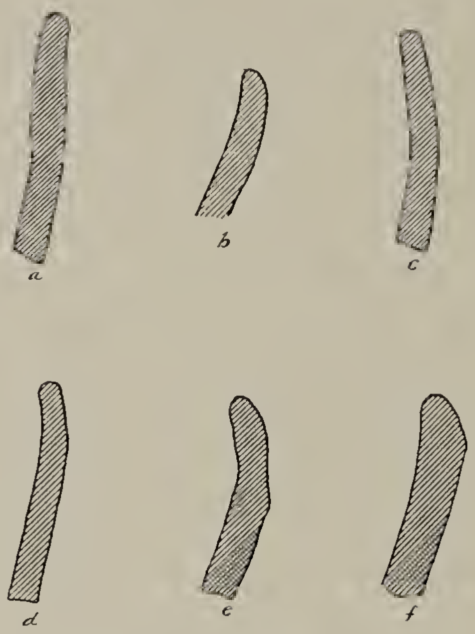


Fig. 7—sections of rims

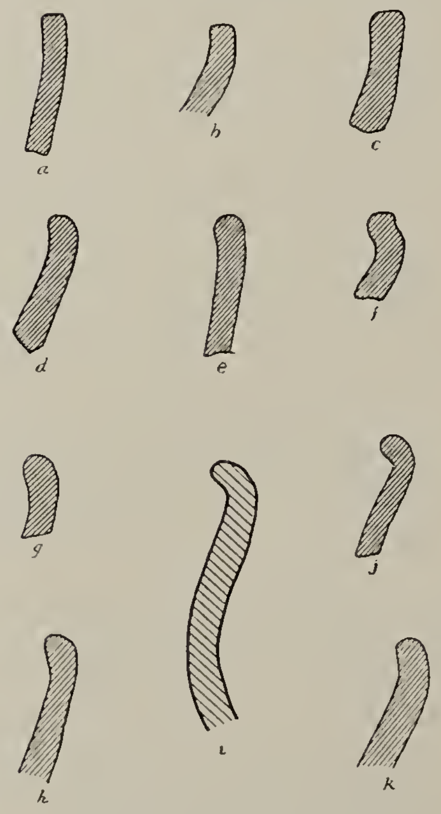


Fig. 8—sections of rims

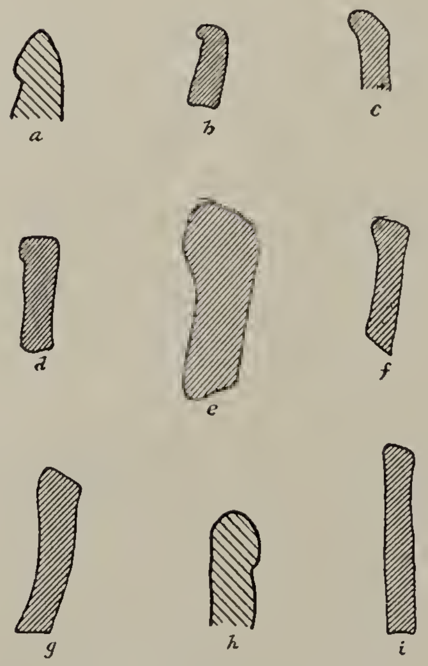


Fig. 9—sections of rims

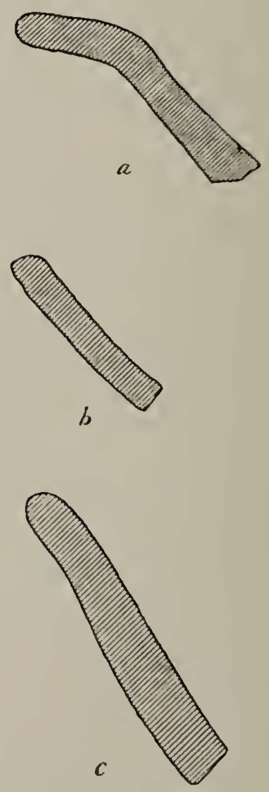
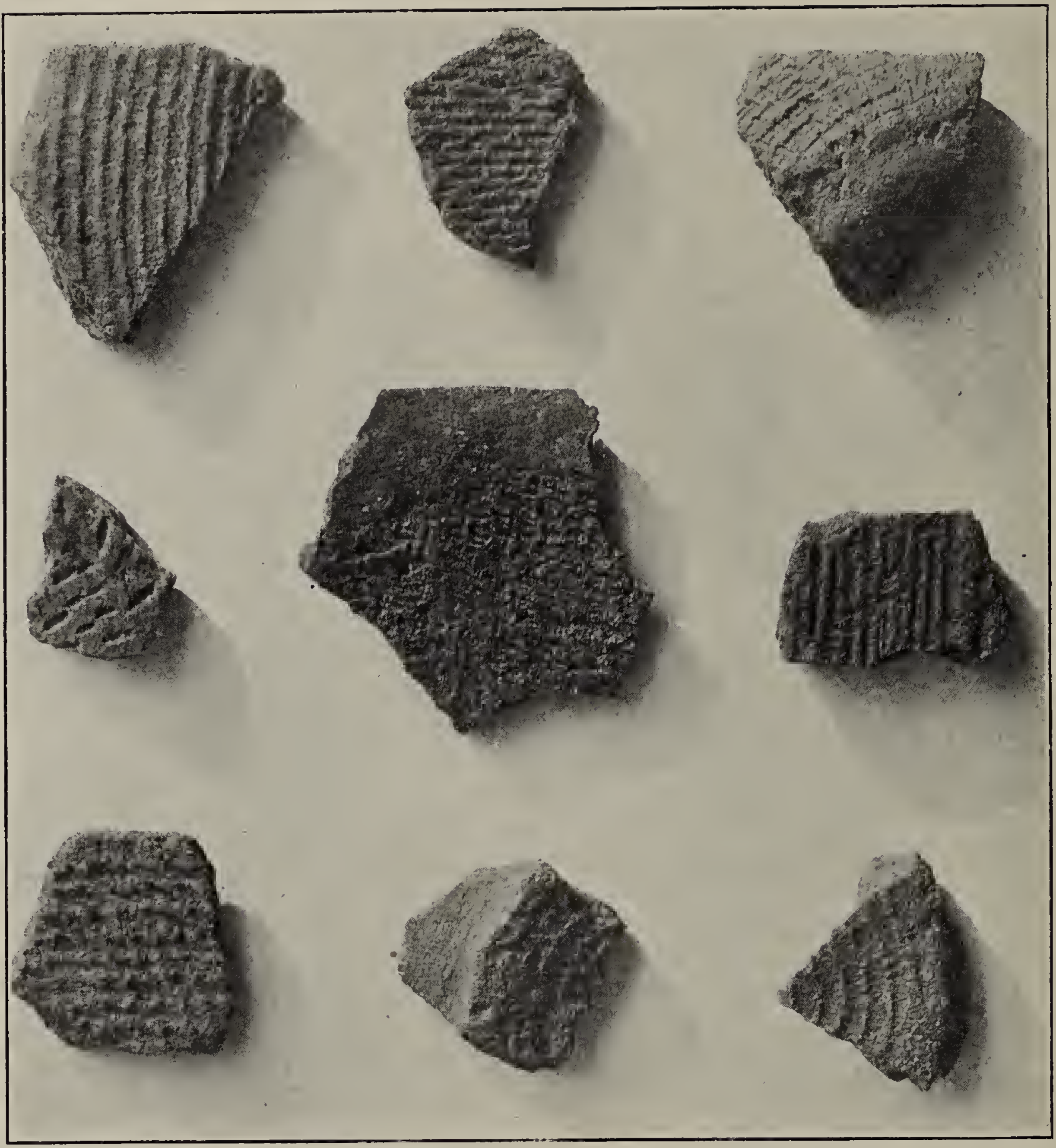


Fig. 10—sections of rims



Fragments showing impressions of basketwork perforation being made sometimes from the outside of the vessel, sometimes from both outside and inside. A few small sherds which have retained the hole intact, have been converted into spindle whorls by rubbing down the broken edges until a circular form was obtained.

II. POTTERY WITH IMPRESSIONS OF TEXTILES

Fragments with Impressions of Basketwork. (Pl. I.) The examples of pottery showing impressions of basketwork consist of fragments of the bases and walls of pots and the markings themselves are also of two kinds. Some of the bases are very concave externally (see Fig. 3), and the impressions are seen only round the edge, in the shape of parallel lines, such as would be caused by placing the vessel on a basketwork mat while yet in a plastic state. Fig. 15 shows fragments with this kind of impression. One is a piece (about the half) of a base 130 mm. in diameter, concave outside and correspondingly convex inside; the thickness in the center is 19 mm., and the sides, where they sprang from the base, were 10 mm. thick. Another base shows a single annular impression instead of parallel lines. Almost flat inside, and slightly concave outside, it has a diameter of 100 mm., and the thickness is almost uniformly 11 mm.; a small piece of the side yet remaining is 7 mm. thick. There are about a dozen fragments of bases showing these impressions, which are generally superficial, the depth to which the basketwork has penetrated rarely exceeding a millimeter. The pieces vary only in size and in the quality of the paste; all have belonged to vessels of somewhat coarse make, with bases of a diameter varying between 70 mm. and 120 mm., with sides of about 7 mm. in thickness at the point where they sprang from the base.

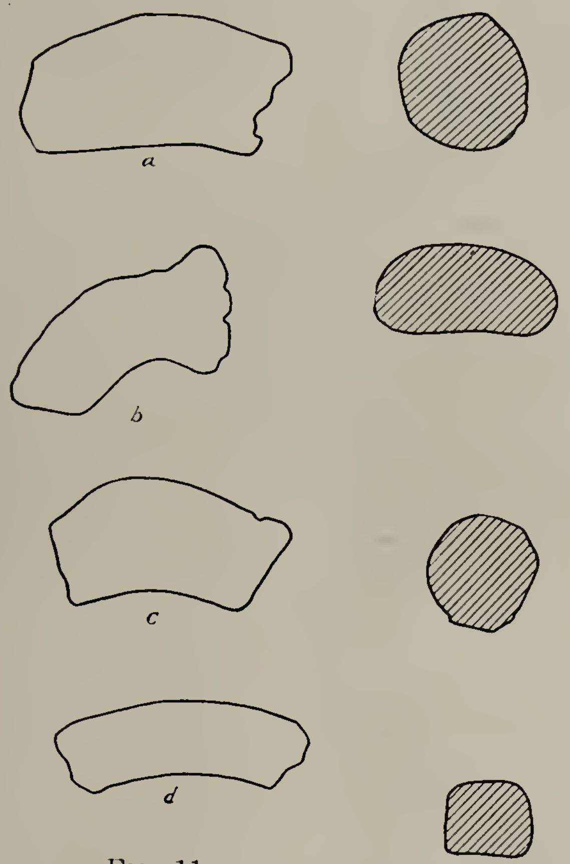


Fig. 11—LOOPED HANDLES

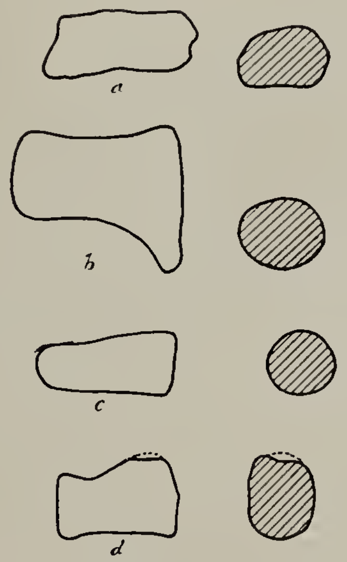


Fig. 12—HANDLES IN THE FORM OF KNOBS

The second class of impression on the bases of pots consists of traces left in the soft clay by a circular piece of basketwork. As the basket-marked bases

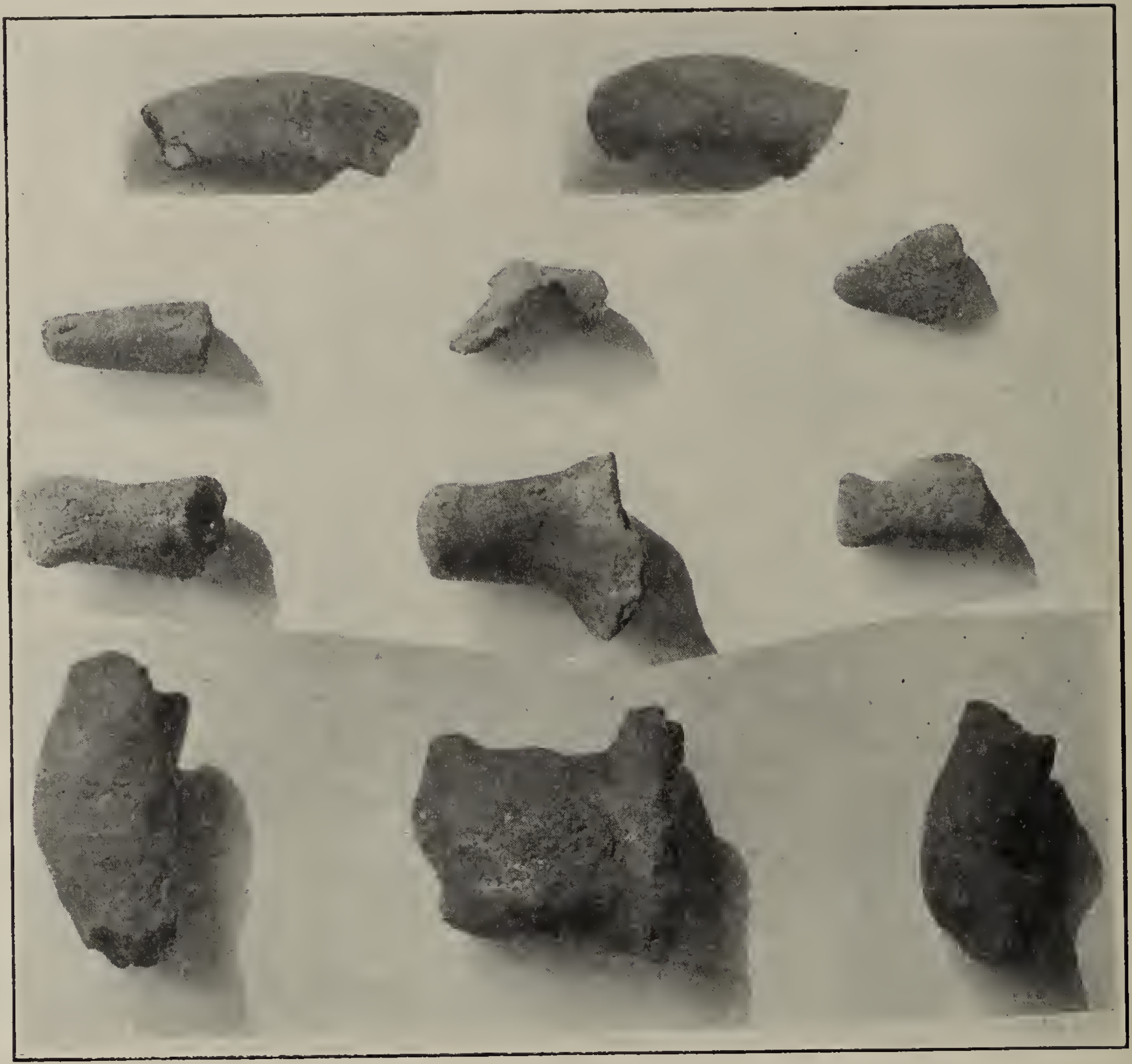


FIG. 13—HANDLES

found had little or none of the walls of the pot adhering to them, it is impossible to say categorically whether the impressions are due to the pot having been moulded inside a basket, or simply to making the base on a piece of spirally woven basketwork. There are fourteen fragments of bases with circular impressions of basketwork and they may be divided into three types, according to the kind of weaving of the basket which has left its marks. The diameters of these bases, where it has been possible to measure them, vary between 73 mm. and 83 mm., but some of the small pieces have belonged to bases of a diameter less than 73 mm.

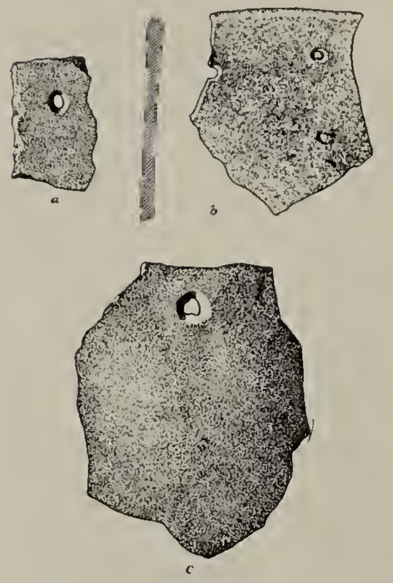


FIG. 14—FRAGMENTS WITH HOLES FOR SUSPENSION

Most of the basketwork impressions are found on fragments of the walls of pots, and include, not only examples of the three types of weaving found on the bases, but two other types as well. As the potsherds which have formed part of the bodies of the basket-marked vessels generally have deeper and better preserved impressions than the bases, it is the former which have served to establish a classification, according to the kind of basketwork which has left its mark in the clay.

Type 1 is a simple textile, consisting of a woof of, probably, grasses, crossed at irregular intervals by a warp of the same material, or, sometimes, of cords. Most of the examples are of small size, except one, a fragment of a shallow bowl or *puco,* found in the department of Sobremonte (Fig. 16). It measures 200 mm. by 140 mm.; the thickness at the base is 6 mm., diminishing to 4 mm. towards the edge. Good examples of this type of impression are shown in Fig. 18.

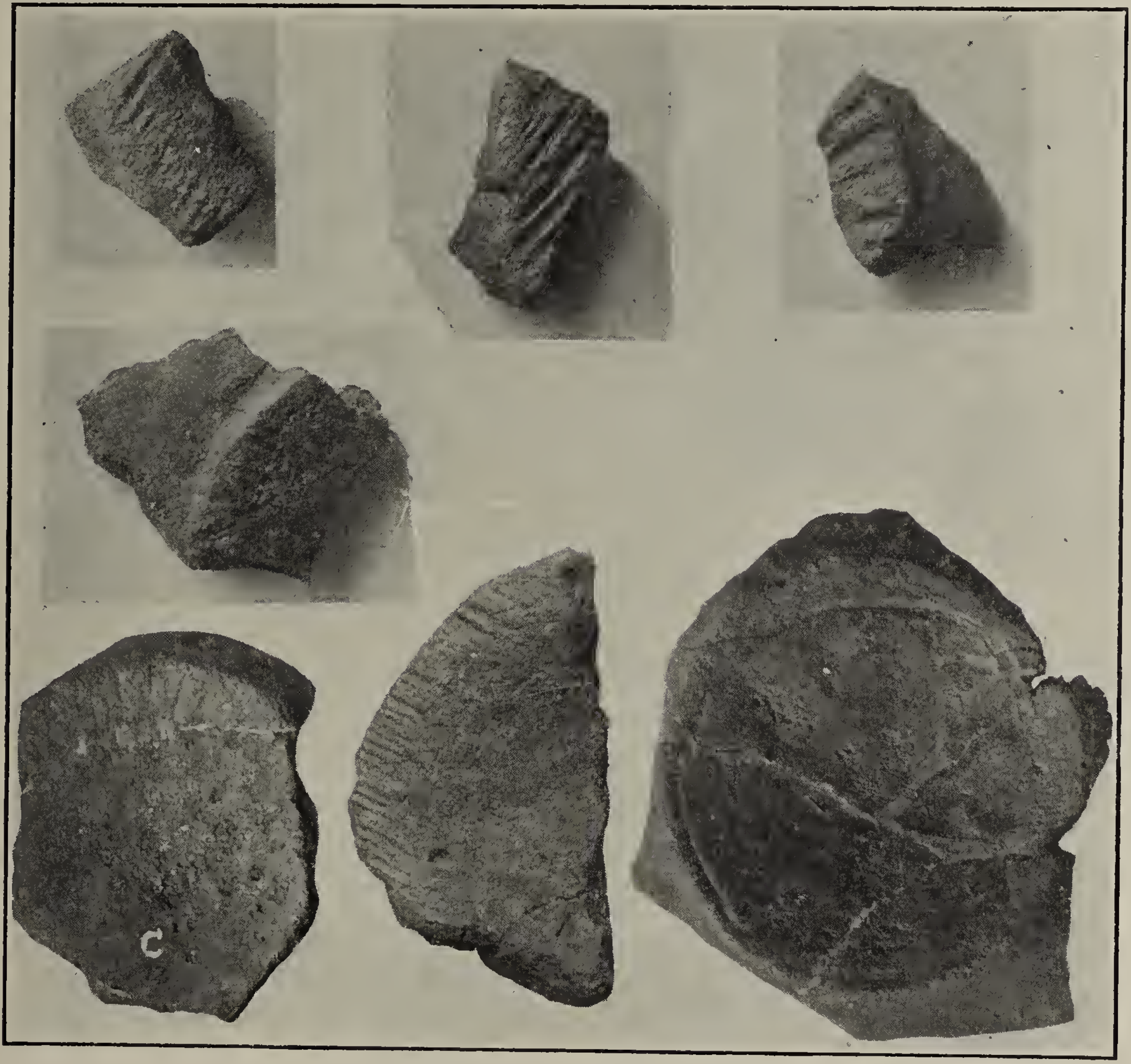


FIG. 15—BASES SHOWING IMPRESSIONS OF BASKETWORK

Type 2 is represented by two fragments of bases already mentioned. There are only three examples of Type 3, one of which is given in Fig. 16. They show impressions of a finely woven basket of very even weft, which completely covers the warp. The examples of Type 4 are parts of the lips of pots, bearing on the inner surface the impressions of what might be either diagonally woven basketwork, or, perhaps, coarse cloth. Type 5 is represented by a single example, with markings which seem to be those of a cloth.

Type 1 is the commonest of the basketwork impressions (Fig. 18). It is this kind of marking which specimens from Tucumán and Catamarca show, as also most of those from Córdoba, where they have been found in places very distant from each other, in the departments of Punilla and Sobremonte. Other examples of the second type have been found in Córdoba, and Boman has described and

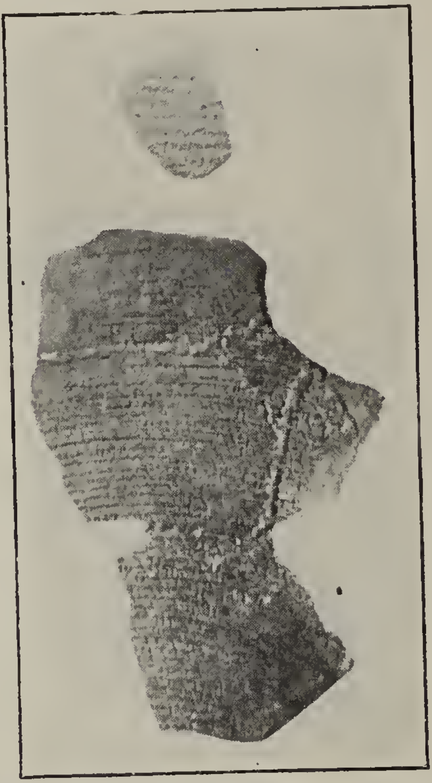


Fig. 16—FRAGMENTS OF WALLS SHOWING IMPRESSIONS OF BASKETWORK

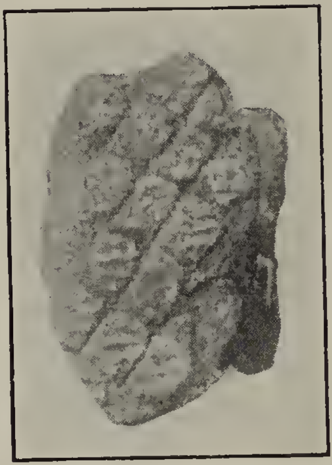


Fig. 17—HANDLE WITH PART OF THE WALL OF THE VESSEL ADHERING SHOWING INTERNAL IMPRESSIONS OF NETWORK

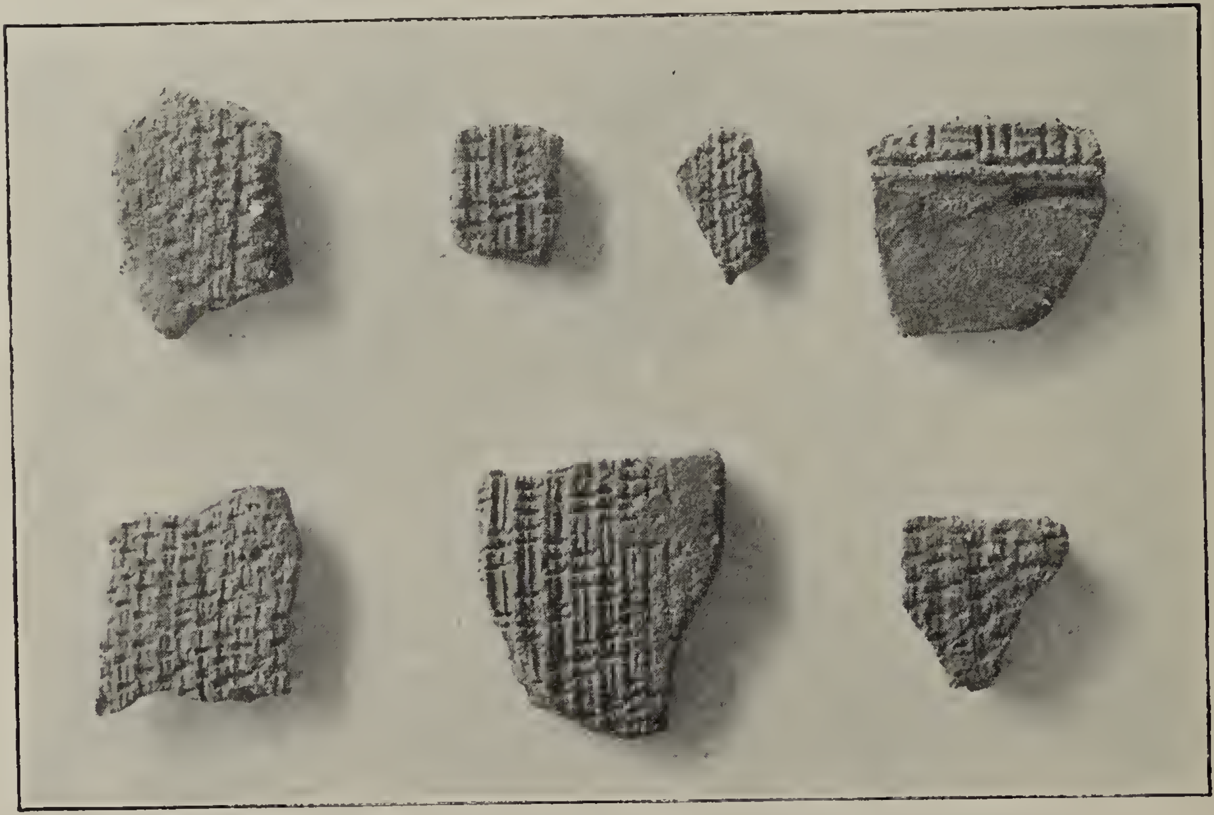
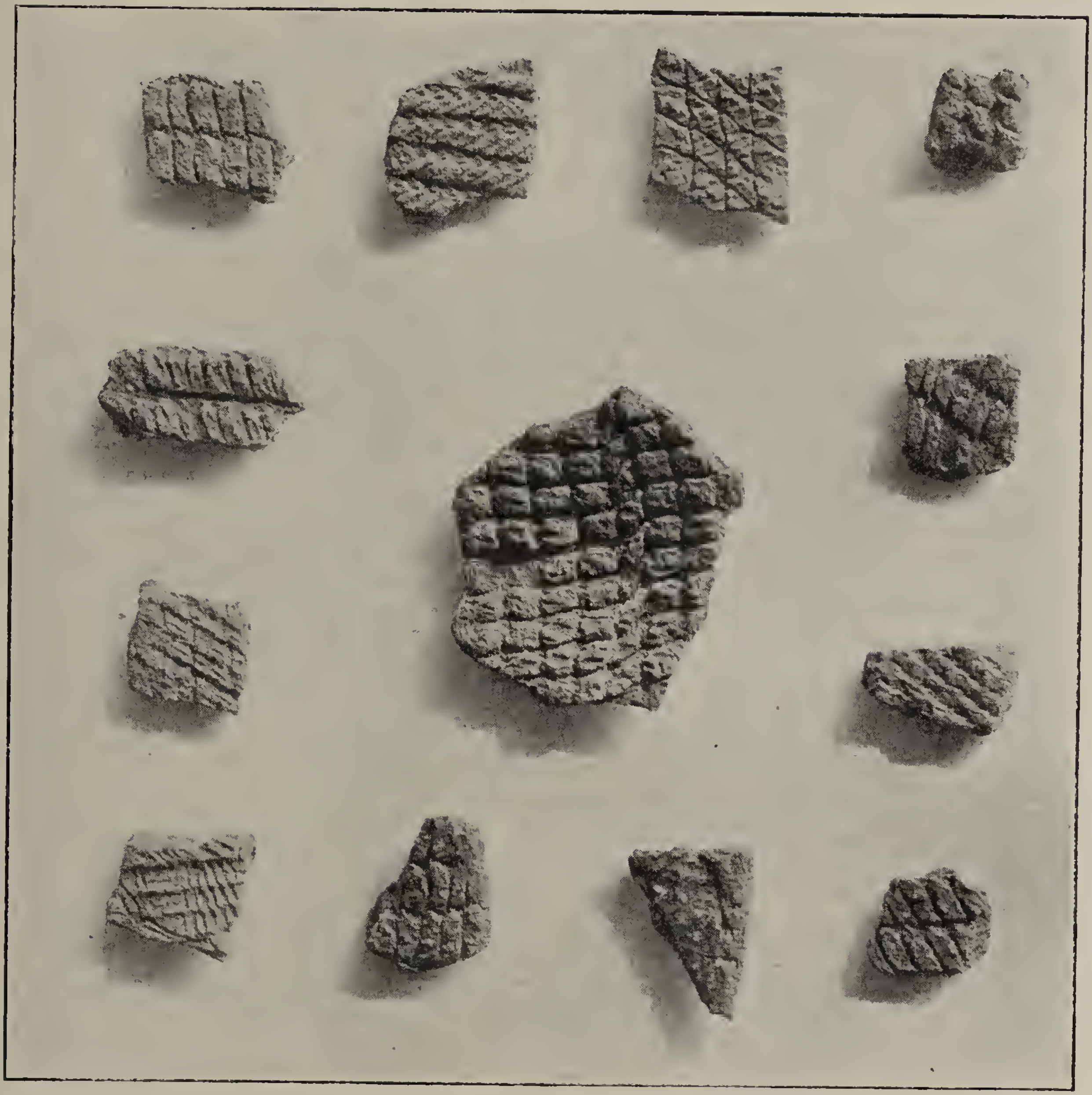


Fig. 18—FRAGMENTS OF WALLS SHOWING IMPRESSIONS OF BASKETWORK

figured the base of a pot with very similar markings from the province of Mendoza. The fourth type of impressions is seen on a bowl from Salta.

Fragments with Impressions of Network (Pl. II.). Over thirty potsherds, almost all of very small size, bear impressions of network. Some of them show



FRAGMENTS SHOWING IMPRESSIONS OF NETWORK

markings of both network and basketwork and some of network only. After a careful examination of moulds in relief of the impressions, I have come to the conclusion that the pots were moulded on baskets or frames of wickerwork, covered with netting, and that the fact that some of the fragments do not show any sign of basketwork under the netting, is due to the closeness of the mesh, for in all cases where the mesh is open, the basketwork is visible. It is somewhat remarkable that the impressions should all be internal. They may be divided into two groups, according to whether the marking has been made by netted or by woven cordwork, but as I have already dealt, in considerable detail, with this textile-marked pottery,[9] in a monograph published in 1919, and as the small amount of additional material obtained since then has not added anything new to the subject, it is unnecessary to enter into it here at any length.

Two of the fragments are handles, which retain part of the inner surface of the pot; the markings on one are not so distinct as usual, owing to the exceptionally coarse quality of the paste, but they are seen to have been made by knotted cords; the second one shows clear impressions of an open, triangular-meshed net, over basketwork (Fig. 17). Another fragment, this time from the wall of a pot, shows the same kind of network over basketwork, the impressions being very deep. Both examples are of the first, or netted group of textile-marked potsherds. The fragments belonging to the second, or woven group of cordwork, are all extremely small. They are of two varieties, the one with an open mesh, under which is seen the basketwork over which it was worked; the other is closely woven, with a diagonal warp, and no trace of wickerwork is visible.

The dispersion, in the Argentine Republic, of pottery bearing impressions of textiles, is very considerable; in addition to several localities in the province of Córdoba,[10] it has been found in the provinces of Salta,[11] Tucumán,[12] Catamarca,[13] Mendoza,[14] Santa Fé,[15] and the territory of Misiones.[16] Outside the

---

[9] Gardner, G. A., The Use of Textiles in the Manufacture of Pre-Hispanic Pottery in the Province of Córdoba (Argentine Republic), *Revista del Museo de La Plata,* tomo 24, segunda parte (segunda serie, tomo 12), pp. 127–168.

[10] Outes, Félix F., Los tiempos prehistóricos y protohistoricos en la provincia de Córdoba, *Revista del Museo de La Plata,* tomo 17, (segunda serie, tomo 4), Figs. 99–101, pp. 358, 359.

Gardner, G. A., *The Use of Textiles,* etc., pl. I–IX.

De Aparicio, Francisco, Investigaciones arqueológicas en la región serrana de la provincia de Córdoba (Breve noticia preliminar), *Gaea, Anales de la Sociedad Argentina de Estudios Geográficos,* 1925, no. 1, pp. 134, 139, 140.

[11] Boman, Eric, *Antiquités de la région andine de la République Argentine et du désert d'Atacama,* p. 114; p. 241, Pl. XIV, Fig. 28 *e,* Pl. XV, Fig. 30; p. 358.

[12] *Ibid.,* p. 113, Pl. II, Fig. 3.

[13] Ambrosetti, Juan B., Algunos vasos ceremoniales de la región Calchaquí, *Anales del Museo Nacional de Buenos Aires,* tomo 7, 2 *a* serie IV, pp. 131–133, Figs. 4, 4 *a.*

Bruch, Carlos, Exploraciones arqueológicas en las provincias de Tucumán y Catamarca, *Biblioteca Centenaria,* tomo 4, Fig. 71, p. 75, p. 76.

[14] Boman, Eric, Cementerio indígena en Viluco (Mendoza) posterior a la conquista, *Anales del Museo Nacional de Historia Natural de Buenos Aires,* tomo 30, pp. 511–513; Fig. 8, p. 511.

[15] Serrano, Antonio, Sobre un nuevo procedimiento en la técnica alfarera del Litoral, *Prometeo,* año 1, no. 16, Fig. 1, 1 *a,* 2, 2 *a,* p. 5; Arqueologia de Las Tejas (Provincia de Santa Fé), *Revista Universitaria del Litoral,* no. 12, Parana, 1922, Pl. XVI, Figs. 48, 48 *a;* Pl. XVII, Figs. 49, 49 *a.*

[16] I have in my possession a small, thick fragment, apparently of the base of a pot, with impressions of basketwork, from one of the abandoned Jesuit mission stations of the seventeenth century.

Argentina Republic, it occurs in Colombia, Brazil, and Bolivia,[17] in the United States of America,[18] and in Indo-China.[19]

III. POTTERY WITH INCISED ORNAMENT

A fair number of the potsherds are ornamented with simple designs, in low relief, of lines, short strokes, and dots, made in the clay before firing. The implement used for this purpose has been, sometimes, a round-pointed one, sometimes a sharp-pointed one, of circular or rectangular section, probably of wood or bone. In a few cases the tool has had a cutting edge, and was, undoubtedly, a stone point or flake. The decoration appears as a strip or border round the mouth of the pots, generally immediately below the lip. Before proceeding to describe the fragments with incised ornament, a primitive kind of decoration should be mentioned, which consists of cuts or of notches in the edge of the mouth of the vessel. In one, a series of slashes have been made with a sharp edged instrument, drawn obliquely from left to right across the rim, from the inside; in others, transverse depressions or furrows have been created by pressure with an instrument of circular section, in one example with such force that the displaced clay forms a ridge projecting beyond the external and internal surfaces of the mouth (Fig. 19a). In yet another, the plainness of the rim has been relieved by pressing it, between the fingers, into a wavy outline (Fig. 21). This notched ornamentation is common in the pottery of the plains.[20] Another simple decoration consists of scratches surrounding the vessel below the mouth, made, apparently, by drawing a comb, or some such toothed instrument, from above downwards and from left to right (Fig. 20). This decoration is only found on

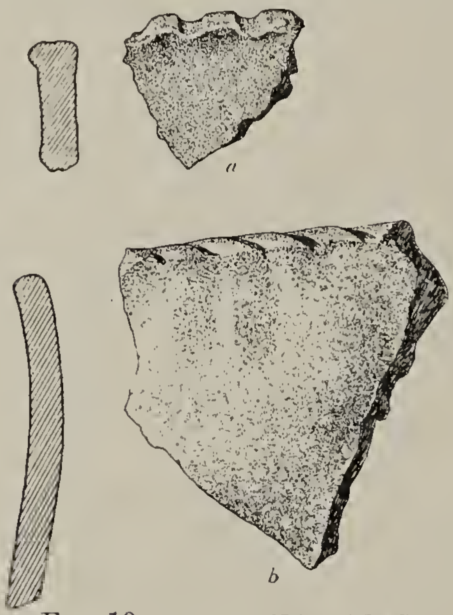


FIG. 19—ORNAMENTED RIMS

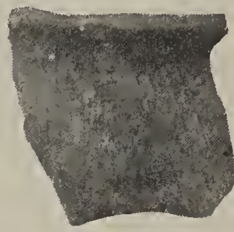


FIG. 20—FRAGMENT OF RIM SHOWING SCRATCHED DECORATION

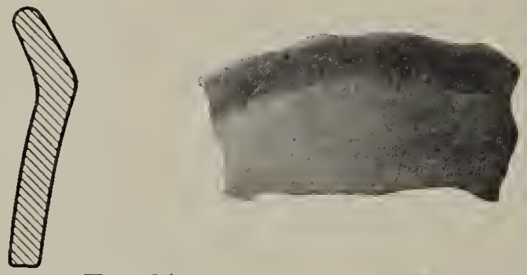


FIG. 21—ORNAMENTED RIM

---

[17] Linné, S., The Technique of South American Ceramics. (*Göteborgs Kungl. Vetenskaps- och Vitterhets-Samhälles Handlinger,* Fjärde följden, Band 29, no. 5), Figs. 27*a*, 27*b*, pp. 92, 93.

[18] Cushing, Frank Hamilton, *The Germ of Shore-Land Pottery,* etc., p. 217.

Bushnell, David I., *Archaeological Investigations,* etc., Pl. 55–57.

[19] Verneau, R., Les récentes découvertes préhistoriques en Indo-chine, *L'Anthropologie,* tome 25, nos. 1–2, Avril, 1925, Pl. I, p. 49, nos. 3–5.

[20] Ameghino, Florentino, La antigüedad del hombre en el Plata, Pl. V, Figs. 222–225.

Outes, Félix F., Arqueología de Hucal (Gobernación de la Pampa), *Anales del Museo Nacional de Buenos Aires,* serie III, tomo 4, Figs. 18–20, pp. 11, 12.

fragments of pottery of coarse make and of relatively large size, which have, also, a markedly modern appearance; the style of ornament survives at the present day in the domestic pottery which is yet made in the province, the instrument used to produce it being sometimes an empty maize cob. Potsherds marked with parallel and wavy scratches have been found in the province of Catamarca,[21] and with the same kind of ornamentation, by means of a blunt, rounded point, in the province of San Juan.[22] Other designs consist of combinations of dots, short strokes and lines, dots and lines alone, straight lines, zigzags, etc. One piece is part of the lip of a small pot which has been covered inside and out with a red slip, traces of which yet remain on the edge. The dots, which penetrate deeply into the clay, are arranged in horizontal rows under a line, and are disposed with surprising regularity (Fig. 25 *a*). The same type of decoration is found on pottery from La Pampa.[23] Another has the outer surface covered with dots, not very deep, made with a tool of somewhat triangular section, arranged so that, in all probability, they formed a symmetrical design. Fig. 25 *b* shows a

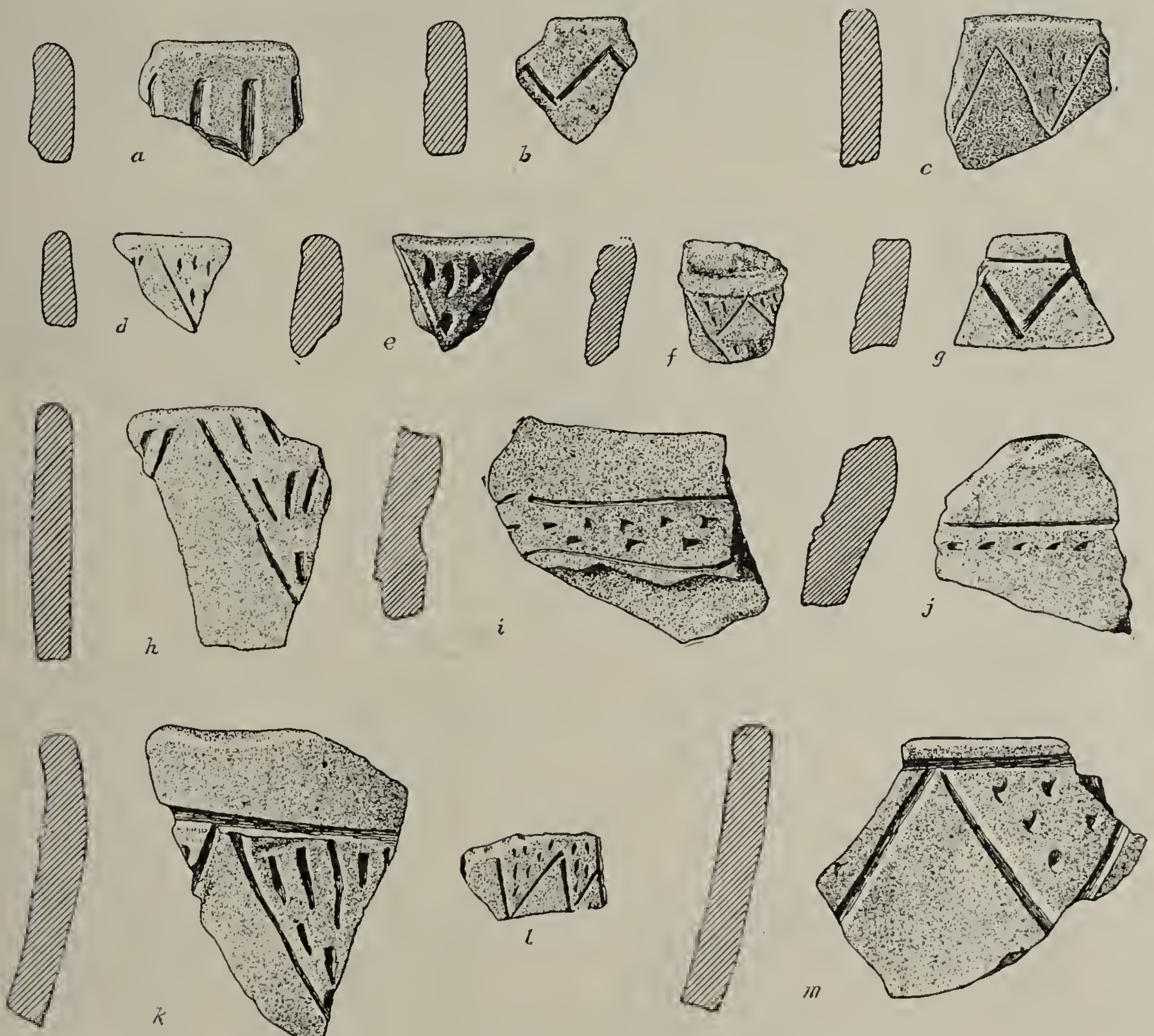


Fig. 22—potsherds with incised ornament

---

[21] Bruch, Carlos, *Exploraciones arqueológicas,* etc., Fig. 161, p. 195.

[22] Debenedetti, Salvador, Investigaciones arqueológicas en los valles preandinos de la provincia de San Juan, *Revista de la Universidad de Buenos Aires,* tomo 32, Fig. 19, p. 92.

[23] Outes, Félix F., *Arqueología de Hucal,* Fig. 27, p. 13.

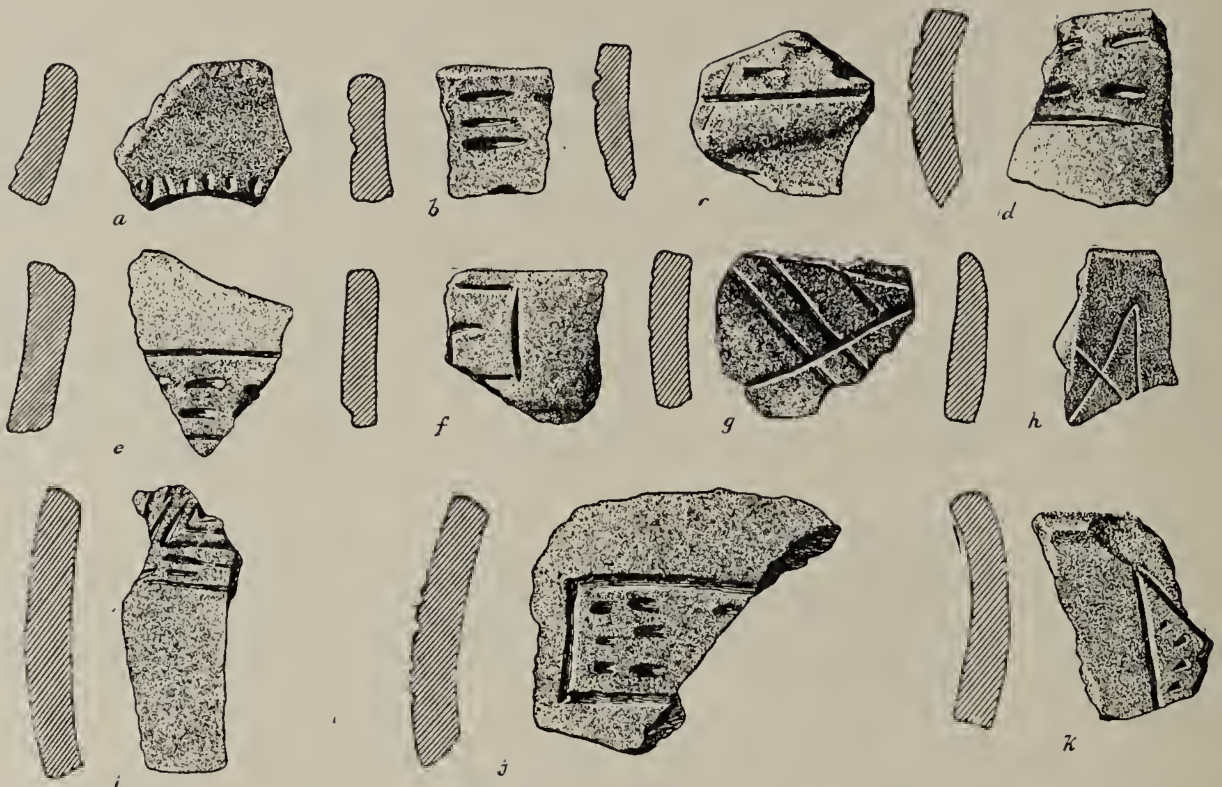

a
b
c
d
e
f
g
h
i
j
k

FIG. 23—POTSHERDS WITH INCISED ORNAMENT

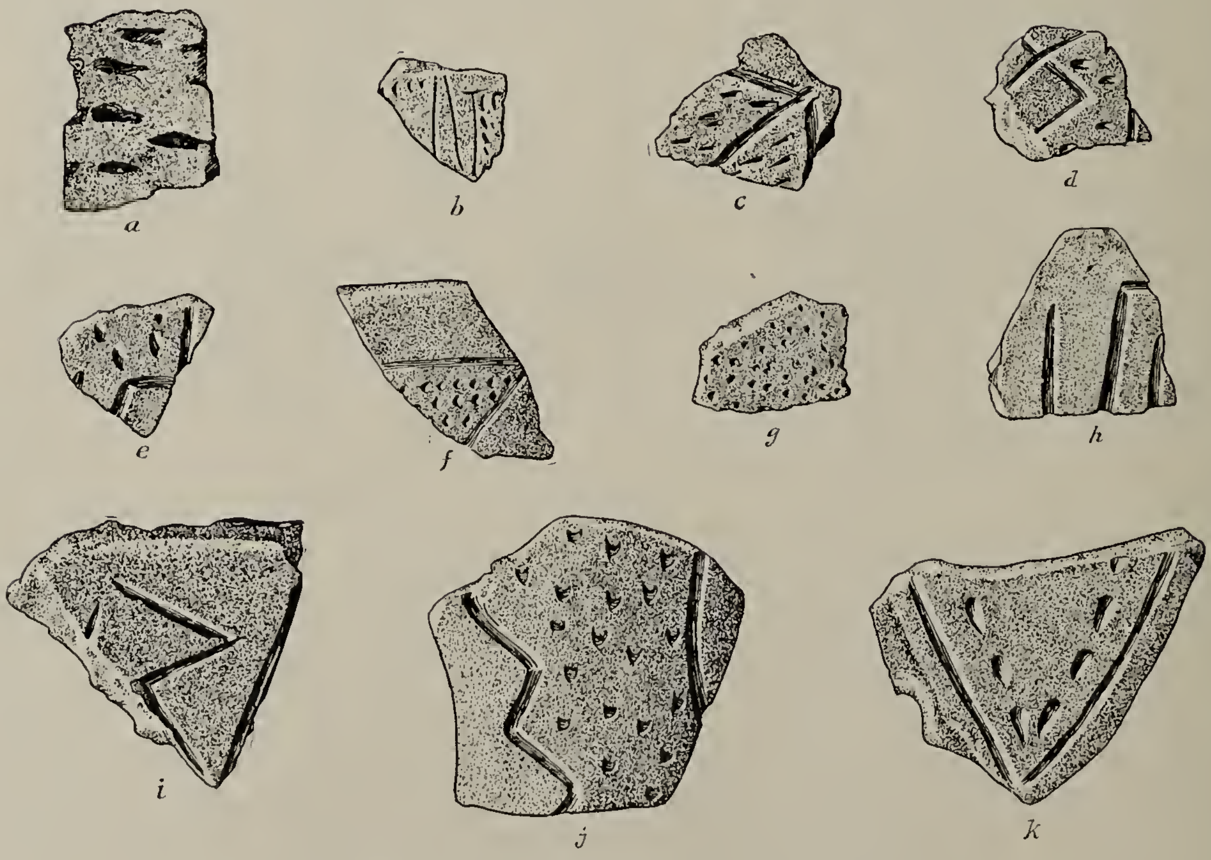

a
b
c
d
e
f
g
h
i
j
k

FIG. 24—POTSHERDS WITH INCISED ORNAMENT

small fragment with a decoration which is also found on the pottery from the plains.[24] It consists of lines of contiguous dots, made, apparently, by alternately drawing the instrument used towards the worker and pushing it into the clay at short and regular intervals, Figs. 22 *a*, 23 *b*, and 24 *a* show some fragments which have as their only decoration short strokes or rectangular impressions. In one, the lines have been made by a very sharp tool, probably a stone flake, while the others are the result of pushing a rounded point obliquely into the clay; in other cases, the tool used has been thin and hollow, with an oval section, perhaps the leg bone of a small bird, or a stout stem of grass. In three cases (Figs. 22 *f*, *i*; 23 *f*) the employment of a special technique is to be noted; it seems as if there had been added to the body of the vessel a coating of clay, in which the design was traced. The type of ornament effected by means of simple straight lines is represented by various examples, some of which, all portions of lips, are figured below. Fig. 23 *f* shows the only example of the key-pattern. The commonest design consists of lines enclosing a triangular space filled with dots or rectangular marks. (Figs. 22 *c*, *d*, *e*, *h*, *k*, *l*, *m*; 23 *k*; 24 *f*, *k*; 26 *b*, *c*, *d*; 27 *a–c*.) Six of the examples are fragments of lips; in some, the lines spring from a line parallel to the mouth and in others they run directly from the edge. In two instances, a flake of siliceous stone, or other sharp-edged tool, has been used to make the incisions; the other impressions have been made with a blunt tool of circular or rectangular section. There are a few examples in which the lines and dots are disposed in a more complicated manner. Figs. 23 *j*, 24 *j* show two fragments where the dots fill a rectangular space, in one case, and in the other are limited by horizontal and diagonal straight lines. The dots resemble hoof-tracks and have been made by a hollow tool notched at the end. Other two, fragments of lips, have a decoration of perpendicular and oblique lines, to which have been added, in one of the examples, dots made with a tool of an almost perfectly cylindrical section. Fig. 23 *i* is that of a fragment which, in the design (horizontal and oblique cuts made with a sharp-edged tool), and in the quality of the paste, differs widely from the other examples of incised pottery. A very interesting example is the fragment of lip shown in Fig. 22 *f*, where a combination of curved and straight lines, and fine dots, have been cut in the paste, the upper part of the design being modeled in relief, as if to form a kind of border. There are a number of very small fragments, the decoration of which differs from that of those described above, among them one with lines parallel to the lip, with other parallel lines placed obliquely below, made with a sharp-pointed flake, and another with finely scratched lines, barely visible.

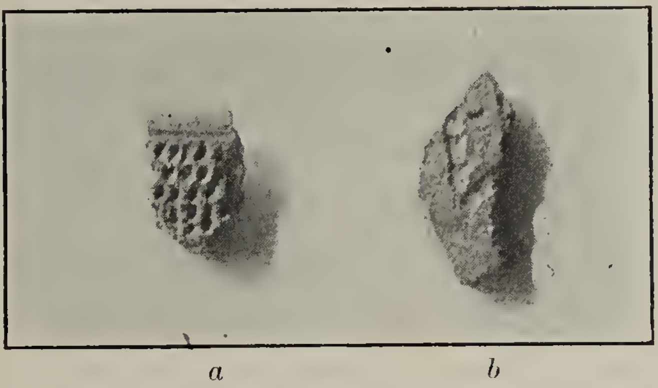


FIG. 25—POTSHERDS WITH INCISED ORNAMENT

---

[24] Ameghino, Florentino, *La antigüedad*, etc., Pl. VI, Figs. 237, 239, 243.

Torres, Luis María, Los primitivos habitantes del delta del paraná, *Universidad Nacional de La Plata, Biblioteca Centenaria*, tomo 4, Fig. 105, p. 287.

The incised pottery of Córdoba,[25] with its simple decoration of combinations of lines and dots (Figs. 26, 27), does not differ materially, as regards the designs, from that found in other parts of the Republic, especially the plains. On going through the archaeological literature at my disposal, I have not found figured any incised pottery of the Córdoba type from the Andean region, with the exception of a few fragments from Pampa Grande.[26] This is due, in all probability, not to the absence of incised pottery, but to its having been overlooked or neglected, owing to the greater attractiveness of the painted ware.

IV. PAINTED POTTERY

In the course of examining a group of communal mortars, eight large fragments of pottery were found at the bottom of one of them, which was, as is often the case, completely filled with soil. These, together with a few smaller pieces found afterwards, proved to be the bottom and more than half of the body of a small pot, decorated with a painted design. The base of the vessel is perfectly flat, both inside and out; the body is globular, with a wide mouth, the rim of which curves outward. This deep rim, or neck, has been added to the pot after this was shaped, and the joint is visible on the inside. The diameters of the mouth, the widest part of the body, and the base, are 100 mm., 115 mm., and 60 mm., respectively. Both the internal and external surfaces have been carefully smoothed and the outside ornamented with a simple chevron design, painted

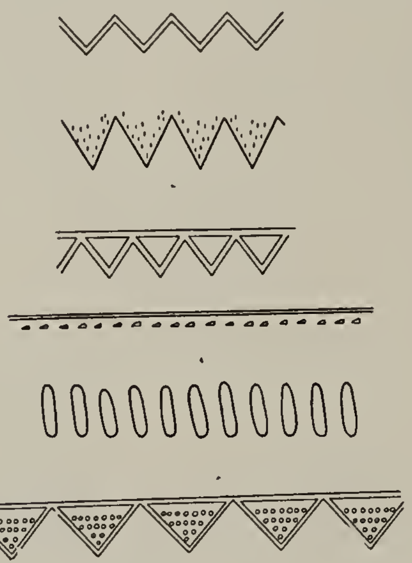


FIG. 26—THE PRINCIPAL VARIETIES OF INCISED ORNAMENT

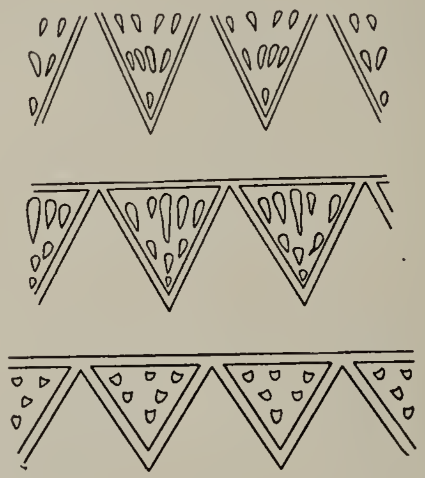


FIG. 27—THE PRINCIPAL VARIETIES OF INCISED ORNAMENT

in black over shallow, polished grooves; there are also traces of a black band round the neck (Fig. 28). Fig. 29 shows a fragment of painted pottery which was found in the sandy soil covering the floor of a rock-shelter in the Department of Río Seco. It is a comparatively large, curved piece, which has probably formed part of a shallow bowl. It is covered with a fine red slip, on which, on the concave side, has been painted a chevron design in black; on the convex side there is a single black band. The only other painted sherds consist of fragments of plates or shallow dishes, with traces of bands of red paint on the upper surface of the rims. They were found at three separate localities in the Department of Punilla, but have nothing in common with the other potsherds. The paste is fine, well fired, and very hard, grey in color, with a red slip; the surfaces are smooth, the upper one being polished, and they seem to be of comparatively modern make. I have seen almost identical fragments in the Lafone Quevedo collection of pottery (from Catamarca) in the La Plata Museum, and I should say they are not of native manufacture, but are imported ware of the Colonial period.

---

[25] The only incised pottery from Córdoba that has been published, so far as I am aware, is that figured by Outes, in *Los tiempos*, etc., Figs. 102–109, pp. 361–363, and by De Aparicio, in *Investigaciones arqueológicas*, etc., Fig. 27, p. 141. According to Outes (*Los tiempos*, etc., pp. 355, 356), the pottery mentioned by Ameghino (*La antigüedad*, etc., p. 510) as "fragmentos de alfarería que parecen denotar un cierto grado de perfeccion en su trabajo, pertenecientes sin duda á los comechingones," found "en diferentes puntos de las sierras," and that from Olaen, in the Department of Punilla, given by Giglioli to the Free Museum of Science and Art, Pennsylvania, have not been described; and a large number of the pieces collected by Ameghino in the outskirts of the city of Córdoba, which included objects with "adornos de un carácter primitivo, escotaduras en los bordes, guardas griegas, combinaciones de ángulos, triángulos, curvas etc., grabados en hueco," have disappeared.

[26] Ambrosetti, Juan B., *Exploraciones Arqueológicas en la Pampa Grande* (*Provincia de Salta*), Fig. 146, p. 141.

V. SPINDLE-WHORLS

The pottery spindle-whorls described below (Figs. 30–31) have not been modeled expressly for this purpose, but are sherds reduced to a more or less circular shape by rubbing down the broken edges. Among the potsherds collected were some on the way to be converted into spindle-whorls. Two of those figured are incomplete; one wants the central perforation, and in the other, the drilling of the hole, begun on the inner face of the sherd, has been abandoned. The finished ones are of a very irregular circular shape, and have been perforated from both sides of the sherd. The others are broken; it would seem that sometimes use was made of fragments of pots, in which there was a hole for suspension, and that some of them broke in the course of rubbing down to the circular shape. The Indians of Córdoba also made spindle-whorls specially for the purpose; I have four stone ones, and Outes[27] has published two examples, both of pottery. Among the material from the Province of Córdoba brought together by Ameghino, were "varias rodelas de tierra cocida agujereadas, para el uso (*sic*) del tejedor, y otras sin agujero de uso desconocido."[28] These are

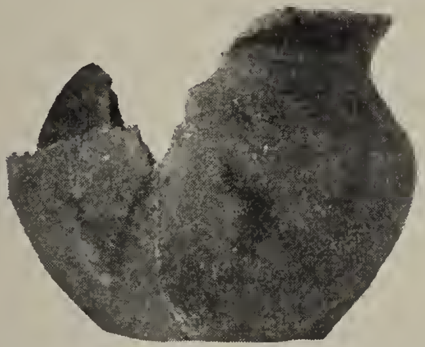


FIG. 28—BOWL WITH PAINTED ORNAMENT

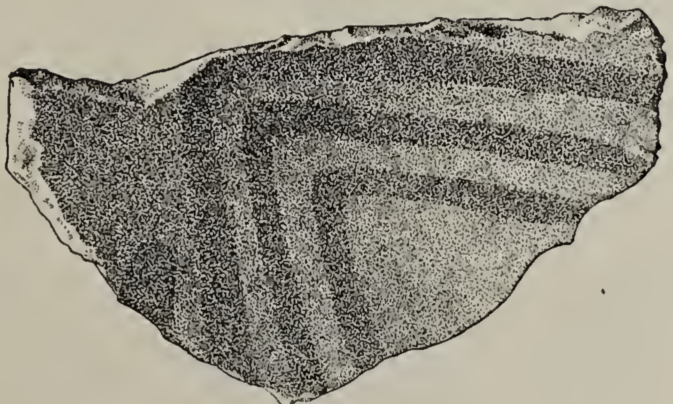


FIG. 29—POTSHERD WITH PAINTED ORNAMENT

---

[27] Outes, Félix F., *Los tiempos*, etc., Figs. 110, 111, p. 363. Spindle-whorls of this kind are also known in the province of Santa Fé, Frenguelli, Joaquín y De Aparicio, Francisco, *Los paraderos*, etc., Fig. 115, p. 86.

[28] Ameghino, Florentino, *Informe sobre el Museo antropológico y paleontológico de la Universidad nacional de Córdoba durante el año 1885,* in Outes, Félix F., *Los tiempos*, etc., *note* 1, p. 356.

now lost, but it is very probable that the first were spindle-whorls made out of potsherds, and the second, sherds reduced to the circular shape preparatory to being perforated. Most of the spindle-whorls which have been found in various parts of northwest Argentine, are either of stone or of pottery, specially made, but Lafone Quevedo figures spindle-whorls from Catamarca,[29] made out of potsherds; they have also been found in Salta.[30]

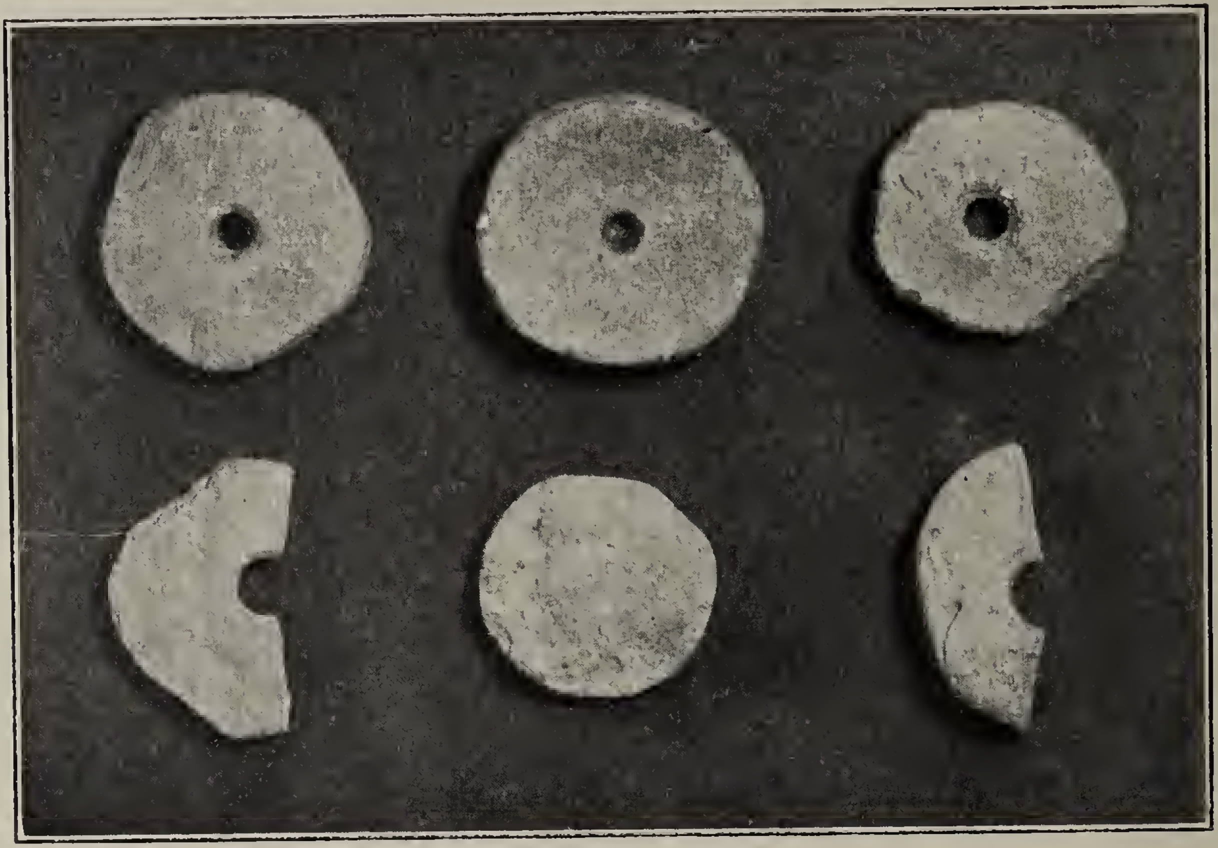


Fig. 30—SPINDLE-WHORLS

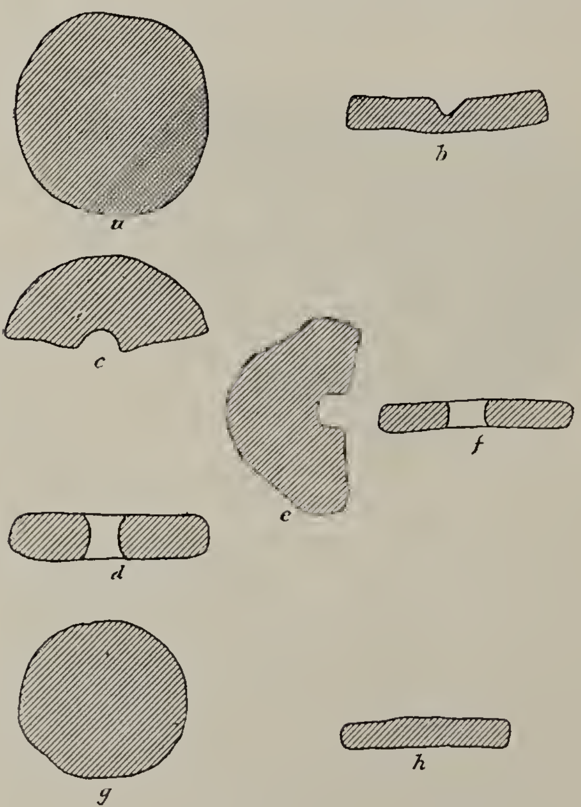


Fig. 31—SECTIONS OF SPINDLE-WHORLS

VI. FIGURINES

The primitive inhabitants of Córdoba have left us, among other vestiges of their culture, examples of their skill in the plastic art, in the shape of small human figures of a very rudimentary character, notable for the conventional manner in which the head and limbs are represented, these last often being indicated by stumps, or, in the case of the legs, joined together in one piece which terminates in a blunt point. Outes[31] has brought together a series of these figures (almost entirely from the Department of Punilla), of varying degrees of perfection, in which can be seen the evolution of the types, from the most primitive, where the intention of making a human representation is barely perceptible, to others modeled in a realistic manner. The most rudimentary figure consists of a shapeless head, jointed directly to a flat, triangular body, without either arms or legs, bearing a simple incised chevron design. After this follow other examples, showing gradual stages of progress in the appearance of the figures, which, though at first preserving the flattened shape of the most rudimentary representations, have indications of arms and legs, the latter joined together. In the most finished type, not only the front of the figure is modeled, but also the back, and the legs are separated; the feet, however, are not represented, and in no case are the arms anything but stumps. Some of the figures show the style of hairdressing and all have incised dots and lines indicating clothing, ornaments, or body markings. The principal article of dress seems to have been a small apron hanging from a band around the waist, or sometimes, a loin cloth. The dots, arranged in lines, or forming geometrical designs, probably represent the *chaquiras,* or disks of snail shell, with which the clothing was adorned. Many of the heads show frontal bands, or, perhaps, caps, some with loose ends which fall down at each side of the face, almost to the neck. Several examples show necklaces, indicated by series of short lines or dots on the breast, or surrounding the neck.[32]

---

[29] Lafone Quevedo, S. A., Viaje arqueológico en la región de Andalgala, 1902–1903, *Revista del Museo de La Plata,* tomo 12, Pl. 8, Figs. 21, 24, 27, p. 97.

[30] Ambrosetti, Juan B., *Exploraciones arqueológicas en la Pampa Grande,* Fig. 38, p. 46.

[31] Outes, Félix F., *Los tiempos, etc.,* Figs. 112–132, pp. 364–372.

Three examples of such figurines were found, consisting of heads broken from the trunks. One has been damaged by the trampling of pasturing cattle and lacks the nose, which has been very prominent; the mouth is barely indicated by two dots; the eyes are represented by lines drawn from the nose to the sides of the head, which is almost circular in shape (Fig. 32 *a*). The second head is very much flattened and seems to have been joined directly to the trunk; the nose is aquiline and very prominent; the eyes, each indicated by three dots, are placed somewhat obliquely. There is no sign of a mouth, properly speaking, but the whole of the surface below the nose is covered with small incised dots. Altogether, the object is so like the head of a bird that, were it not for the existence of a complete figure,[33] with a head almost exactly the same, it would be taken for an ornithomorphic representation (Fig. 32 *c*). It resembles somewhat a head from Santa María,

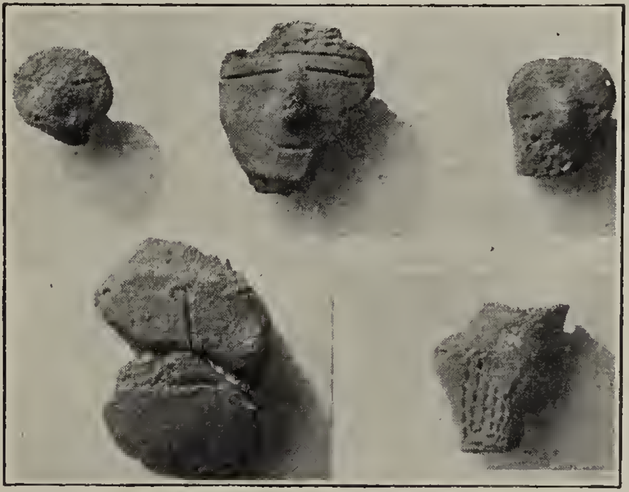


FIG. 32—FRAGMENTS OF HUMAN FIGURINES

---

[32] Professor Joaquin Frenguelli, in an extremely interesting and valuable paper on the shells found at the comparatively modern aboriginal settlement of Lake San Roque, mentions, incidentally, a pottery figurine from that site, wearing a cocked hat, and with the hair arranged in a queue, (Conchas de ''Borus'' en los paraderos indígenas del Río San Roque, Sierra Chica de Córdoba-Departamento de Punilla, *Boletín de la Academia Nacional de Ciencias de Córdoba,* tomo 26, p. 405). In the same communication he reproduces an anthropomorphic figure (Fig. 10, p. 417) from the same station, but it is not clear whether it is the one referred to by him on p. 405, or not.

[33] Outes, Félix F., *Los tiempos,* etc., Fig. 116, p. 365

Salta, figured by Boman.[34] The third head is the best of all, although modeled in a conventional style. The eyes and mouth are represented by straight lines, remarkable for having been impressed by a thin cord, which gives to the mouth the appearance of being provided with teeth. The nose is prominent, and has the nostrils indicated by two perfectly circular holes of less than a millimeter in diameter, which penetrate the clay to the depth of three millimeters. The head shows what seems to be a frontal band, a straight line with three rows of dots above. These continue round the back of the head, where there are three more lines of dots running down the middle, from the horizontal lines, towards the neck, which is surrounded by two lines of dots, as if to represent a necklace. At one side of the head (the corresponding part on the other side is broken off) there is a protuberance, probably representing the ear, though placed somewhat low down, which is traversed obliquely by a perforation of exceedingly small diameter (Fig. 32 *b*). Some of the known examples of figurines of this class have the ears perforated as if for pendants. This head may be compared with one from Lake San Roque.[35] Fig. 32 *d, e* shows two fragments, which, from their shape and markings, appear to be pieces of the trunks of human figurines. In the one, the back is flat, without any markings whatever; the other side is modeled, and decorated with a series of vertical and horizontal lines of small dots. The other has a slightly concave back, on which are a few incised dots, while the opposite surface is ornamented with both straight and zigzag lines, one of them made by impressing a fine cord, the others of close-set incised dots. Close to one edge, there is a hole of less than a millimeter in diameter, which passes from one side of the fragment to the other.

Similar figures are common throughout the whole Andean region; they have been found in the provinces of Catamarca, La Rioja, Salta, and Tucumán.[36]

VII. TECHNIQUE

Quality. The pottery in general, as regards make, quality of the paste, color, and firing, is extremely varied. Beginning with the plain pottery, there are coarse, thick fragments, evidently of domestic utensils of comparatively large size, generally of a brick red color inside and out. Mica is not very conspicuous in the paste of these fragments, but on the other hand, there are relatively large pieces of quartz and feldspar. The firing has not been complete, so that the clay is red only on the outside, leaving an internal black zone of varying width. It is evident that the vessels were made in a great many different shapes and sizes, the larger, undecorated ones for use as cooking pots. They are often so engrained with soot inside and out that it is impossible to say what the original color was. Others, not so smoke blackened, are brick red, brown, or grey on both outer and inner surfaces. The firing, as a rule, is uniform, although at times the fractured edges show two or more zones of color, red and black. The outer surface is often fairly smooth, but the inner one is almost invariably rough and uneven. The paste frequently contains grains of quartz and feldspar and always a large amount of mica. The average thickness of these sherds is nearly 10 mm. Another coarse, thick kind is blackish red to black in color outside, and yellowish brown inside. The outside has been smoothed, but the inner surface is peculiarly rough and sandy, and full of particles of quartz; the average thickness is 9 mm. Many pieces are of clay of a greyish brown color, containing a good deal of mica and feldspathic mineral. They have been carefully smoothed externally; some pieces, which are almost polished, have a fine slip applied to the outer surface. In very many, mica is present, not in small flakes, but in powder. The sherds vary in thickness from 9 mm. to 5 mm., and are generally evenly and thoroughly fired. The color of the surface is more or less that of the clay, darkened in one or two cases by polishing, after the application of a fine slip. Another kind is from reddish brown to brick red in color externally and dark grey to black in the fractures; mica in spangles is plentiful. The pieces are thin, varying from 5 mm. to 3 mm. in thickness.

---

[34] Boman, Eric, *Antiquités*, etc., Fig. 2*m*, p. 121.

[35] Outes, Félix F., *Los tiempos*, etc., Fig. 127, p. 368.

[36] Boman, Eric, *Antiquités*, etc., pp. 119–122, Pl. 1, Fig. 2, *b, c, m–r*.

Lafone Quevedo, S. A., Catálago descriptivo é ilustrado de las huacas de Chañar Yaco (Provincia de Catamarca), *Revista del Museo de La Plata*, tomo 3, Figs. 21–23, p. 51; Las ruinas de Pajanco y Tuscamayo entre Sijan y Pomán, provincia de Catamarca, *Revista del Museo de La Plata*, tomo 10, Figs. 8, 9, p. 264; *Viaje arqueológico*, etc., Pl. XVI, Figs. 1, 11, p. 106; Pl. 17, Figs. 6, 7, p. 108.

Ambrosetti, Juan B., *Exploraciones arqueológicas en la Pampa Grande*, Figs. 44, 45, p. 53; Figs. 101, 102, p. 97; Fig. 118, p. 110.

By far the larger number of fragments are thin, averaging 5 mm. in thickness, but, nevertheless, they seem to have formed part of vessels of comparatively large size. They are rough, or only slightly smoothed externally and nearly all blackened on one side or the other, as if by fire; some of the pieces are exceedingly rough and uneven inside, owing to the scaling of the surface. The paste is grey, loaded with mica in spangles. A considerable quantity of the thinner potsherds are of a highly micaceous, sandy clay, well fired, and of a bright red color throughout.

A base, or rather stem, from San Roque, is different from all the other pottery. It is of a compact, grey clay, lightly fired, yet hard, containing scarcely any quartz, and with the mica in exceedingly fine grains. The base, or foot, has been concave; the stem is cylindrical, blackish in color, and shows the marks of the tool used for smoothing the surface.

Of the three examples of indented lips, one, a small fragment, is of a dark brown, sandy clay, with a gritty surface; the paste of the second is very coarse, with a great many angular grains of quartz and feldspar, but it is well fired and hard. The inner surface is dark red in color, the outer one is blackish, and both are fairly well smoothed, considering the coarseness of the paste. The third segment, which has a more modern appearance than the rest of the pottery, is of very fine grey clay, showing only a few grains of quartz, and very little mica. The firing has not been complete, but has changed the color of the outer and inner surfaces, which are very hard, to black. Both faces are carefully smoothed, the outer one being polished.

The incised potsherds are all, with the exception of a fragment of a base, portions of the walls of vessels. Few segments of rims were found, and none large enough to show the original diameter of the mouth. The color of the outer and inner surfaces is generally a dull red or brown, rarely grey or black.

The firing has often been imperfect, and recently fractured pieces show two or more zones of color. The surface, both outer and inner, is coarse in some, and covered with scratches and irregularities, but the majority are carefully smoothed, and some of them have a colored slip on one or both surfaces. Almost all have grains of quartz and small flakes of mica disseminated through the paste (which is generally coarse) the latter mineral being the more abundant. The thickness of the sherds varies from 4 mm. to 9 mm., but in the great majority it is between 5 mm. and 6 mm. The examples from San Roque have formed part of pots of small size, with thin walls, and of fine paste. They include two of the pieces decorated with small dots, one of a light grey color on the inner surface, and with a lead-colored, polished outer surface; the other piece still retains vestiges of a red slip. From the Tablón, in view of the relatively small quantity of potsherds found there, come a surprising number of incised fragments, most of which are characterized by the superior finish of the pottery, and the careful execution of the designs. They are of two kinds, the one being sherds of common make, of a reddish color, thick, and imperfectly fired; the other of fine paste of a brown color, with both inner and outer surfaces polished, the designs, also, being better done. Decorated pottery is poorly represented at the Balata and there is little variety of design. With few exceptions, the examples are ordinary, not only in make, but also in decoration, all but one, where the design is so regular as to suggest that it has been done with a stamp. From the Cañada del Novillo, there are also two classes of incised fragments, some, the majority, of red paste, heavily loaded with mica and others of a dark grey color, and unpolished either outside or in. The paste is of coarse quality and the designs are executed in a somewhat rude way, but with a firm and sure hand.

In regard to the quality of the pottery with impressions of textiles, the fragments, whether of bases or of walls, do not as a rule differ materially from the plain potsherds, except, perhaps, in the paste, which is, save in a few cases, of an exceptionally coarse nature. This is specially noticeable in the network-marked sherds, some of which are of a peculiar, pale reddish clay, very lightly fired. A plain slip seems to have been applied to some. Those, however, bearing the imprints of the commonest type of basketwork are almost invariably of a lightly fired, fine paste of a pale grey color. A few small, network-marked sherds are of a very sandy consistency. There is great variety of surface color, ranging from light grey to black, and a great many shades of brown and red; the firing, on the whole, has been good.

The painted vase from the Balata is made of a hard paste of a brownish red color inside and out. The firing has been uneven; the outer surface shows black patches (*coups de feu*), and the broken edges have three zones of color, black in the middle, and red externally. The paste contains small grains of white feldspar, chiefly in the base, but there is much less mica than usual, and the mica present is in very fine particles. The painted fragment from Río Seco is of very well fired, hard paste, containing a few angular grains of quartz. The surfaces have been carefully smoothed and a fine red slip applied. Some sherds show that, chiefly in the case of the smaller pots, after the inner and outer surfaces had been smoothed, they were covered with a slip, which was sometimes colored dark red.

The fragments of figurines are, with one exception, well fired, and a feature of one from San Roque, and of another from the Tablón, is the superiority of the paste to that of the potsherds found on these sites.

Methods of Manufacture. The manufacture of hand-made pottery, on a very limited scale, is still carried on in the Hills of Córdoba, invariably by the older women, for their domestic necessities and also for sale to the neighbors, but it will soon be a lost art, so far as Córdoba is concerned. The blessings of civilization have now penetrated to the remotest corners of the province, so why trouble to make pottery, when enameled ironware and discarded kerosene tins are within reach of all?

As the methods employed doubtless differ but little from those of prehistoric times, it may be of interest to describe them as they were carried out, down to a comparatively recent date, by an aged woman who made pottery until advancing years put an end to her activities. First, the base is made, and left to dry in the open air; then long strips of clay are added to it one by one until the vessel acquires the desired shape. After this, it is smoothed with a piece of cane and fired, the fuel used being dry cow dung. During the process of manufacture, the pot stands directly on the ground, without the intervention of any cloth or mat, neither are any tempering materials added to the paste, which is of clay alone, well kneaded. If the pot is to have an everted rim, this is modeled separately and attached to the body. The potter's wheel is completely unknown. Some vessels are provided with handles, and some are painted, the coloring matter being a red earth. No black pottery is made; it is all of the brick red variety and is inferior in quality to that of pre-Colonial times.

Cushing,[37] speaking of the Zuñi pottery, says that the concave bases generally have an external indentation completely surrounding the bottom, and, explaining this peculiarity, says that if the pot was moulded inside a basket with a convex bottom, it would be necessary to take it out before drying in order to avoid cracking as it shrunk. To support it until dry, it would be placed in one of the basket rings used for carrying convex bottomed vessels on the head and for standing them in on the ground; to avoid the falling in of the bottom, a wad of some soft substance would be placed inside the ring. Once the concave shaped bottom was obtained, the bases of old pots were used as moulds; the Zuñi women of the present day keep them for this purpose. It is not at all improbable that the aborigines of Córdoba employed similar methods, as some of the concave bases bear external impressions of basketwork, and the circular indentation to which Cushing refers is also to be seen, in some cases, with the basketwork impressions, in others without. The thickness of the bases of this type is generally very uniform, with a tendency in some to increase a little in the center. This uniformity would seem to show that the clay has been kneaded with the ball of the thumb, on an unyielding foundation, such as would be provided by a basket, or the base of an old pot. Some bases show signs of having been built up of several flaps of clay laid one on the other and pressed together.

The most usual shape of the modern Córdoba pots is such that no special manipulation is required to form the mouth and the majority of the labial fragments of the Indian pottery belong to vessels of this shape, where the lip is merely a prolongation of the walls, or very slightly inclined outward, but in one example, which has a strongly everted lip, the neck has been modeled separately and then joined to the globular body of the pot, in the interior of which the junction is yet visible.

---

[37] Cushing, Frank Hamilton, A Study of Pueblo Pottery as illustrative of Zuñi Culture Growth, *Fourth Annual Report, Bureau of Ethnology,* Washington, 1882–1883, pp. 503, 504.

That the coiling method has been employed, is evident from two potsherds, one of them a fragment of lip, each of which shows a smooth, clean fracture, concave in the one case (Fig. 6 *d*), and convex in the other.

The methods employed by the present-day aborigines of South America are all more or less the same. Boman[38] describes the manufacture of pottery among the Susques of the Puna de Atacama, where the clay, mixed with a certain amount of water, was prepared on an old poncho spread on the ground and kneaded with the hands, water and small quantities of well-crushed rock being added from time to time. The bottom of the vessel was made first, by placing a more or less circular piece of the prepared clay on the poncho and turning up the edges so as to begin the body of the pot. The walls were made by adding pieces of clay smoothed between the hands. When one such circle was complete, another was begun, and so on in succession, the joints being squeezed with the fingers until what was to be the mouth of the vessel was reached. During the work, the inside and outside of the pot were continually smoothed with primitive bone implements; the handles were then made separately and attached to the sides of the pot. After the vessels had been allowed to dry in the open air, they were heaped over with cow dung, which was lit and allowed to burn until completely consumed. The methods in use among the Chiriguanos of eastern Bolivia are very similar.[39] A *chaguar*[40] net is placed under the pot to prevent the adhesion of earth to the base. Fray Doroteo Giannecchini, an Italian missionary who worked among these people, gives us some additional information.[41] He mentions the mixing of pounded potsherds with the clay, and that the finished articles were exposed to the sun before firing, which was done by surrounding them with firewood or well-dried cow dung. Once lit, care was taken to keep up the fire until the pots were thoroughly baked. An English missionary,[42] who lived and worked for nearly thirty years among the Lenguas of the Paraguayan Chaco, has some very interesting remarks on pottery-making as practised by these people:—

> ''Pottery, in the shape of water-jars, cooking-pots, and shallow dishes, is made by the women. Particular attention is paid to the class of clay employed, and in preparing it they use a mixture of old pottery pounded up. The vessel is formed by the addition of thin rolls of clay to a prepared base, which rests on a bed of skins made slightly concave, and is gently turned round as the operator proceeds. After moistening the edge of the base with water, the clay is rolled out between the hands and laid on the edge, each roll as it is added being smoothed out with the shell of a fresh-water mussel dipped in water to enable it to run smoothly.
>
> When complete the vessel is dried in the sun, and then fired for about an hour by placing it on the ground and piling the fuel round it. No glazing is done, but the vessels are marked with

---

[38] Boman, Eric, *Antiquités*, etc., pp. 478–480.

[39] Outes, Félix F., La cerámica Chiriguana, *Revista del Museo de La Plata*, tomo 16, 2ª serie 3, pp. 122, 123.

[40] The *chaguar*, or *caraguatá*, one of the *Bromeliaceae*, from whose leaves the Indians of the Chaco obtain a strong fiber, with which, rolled into string, they make shirts, bags, and fishing nets.

[41] In *La cerámica Chiriguana*, pp. 122, 123.

[42] Grubb, W. Barbrooke, *An Unknown People in an Unknown Land*, pp. 72, 73.

rude and irregular designs while they are still hot, by using birds' quills, chips of holy-wood (palo santo), and gums.[43] A few pieces of pottery are ornamented with designs of raised clay, but these are exceedingly rare and of a peculiar shape. Broken pieces of old pottery have been found bearing scorings, as if made by the pressure of the thumb, and are said to be the work of spirits."

I am indebted to the Rev. H. T. Morrey Jones, a colleague of Mr. Barbrooke Grubb in the Paraguayan Chaco Mission, and editor of his book, *An Unknown People in an Unknown Land,* for the following information, which differs in some respects from that given by Grubb:—

> "In making pottery the Indians (women only), roll the clay in their hands into long snake-like rolls and place on the base made ready, thus layer by layer (roll by roll) building up the piece. They polish after firing by scraping and rubbing with a swamp mussel shell. The pots are sun-dried for a very short while, then baked or fired in an oven dug in the earth; fuel—wood. The only ornament is a black painting of crude designs. The paint is obtained from the juice of a fruit, and is put on before firing."

In the preparation of the clay, no tempering material is added; "nothing but the pure clay." Loose grass is interposed between the vessel and the ground during manufacture.

As we have seen, there are certain methods common to the manufacture of pottery by the indigenous peoples of the present day; the addition to the clay of non-plastic substances such as sand, crushed rock, or potsherds, the making of the base beforehand, the intervention of mats, cloths, nets, or grass, between the vessels and the ground, the formation of the walls by strips or rolls of superposed clay, the use of bone or wooden tools for smoothing and polishing the surface, and of dung as fuel. The differences are chiefly in the manner of forming the walls of the pots. Some potters make rolls of clay equal in length to the circumference of the vessel, which then consists of a series of superposed rings; others wind the roll spirally until the desired shape is obtained, while yet others model the vase out of a lump of clay, shaping it with the hands, as do the Chiriguanos when making vessels of small size.[44] Certain Peruvian and Brazilian tribes mould their pottery over stones of a suitable shape.[45]

A proceeding almost universal in the manufacture of native pottery is the addition of sand, finely crushed rock, or ground up potsherds. Such substances are added to the clay to make it more workable, to assist the uniform drying of the vessels, and also to avoid loss of shape or the formation of cracks during the firing process; they also make the pots better able to resist blows and changes of temperature. Almost the whole of the fragments of pottery with which we have dealt are loaded with feldspathic and micaceous particles. In the coarser potsherds white feldspar and quartz predominate, which seems to show that the clay was mixed with the coarse granitic sand so plentiful in the locality. In the thinner fragments the predominating mineral is mica, either in spangles or in fine powder, which indicates the use of mica-schists. Schists, exceedingly rich in mica, abound in the district. Some of the potsherds contain finely divided mica in such quantity that the paste is extremely friable. It is very possible that sometimes the particles of quartz, feldspar, and mica, as also the carbonized organic matter which the sherds occasionally contain, were present accidentally in the clay employed, and were not added intentionally. It is not at all likely that old potsherds were ever utilized by the Comechingons, as this material is a substitute for siliceous sands or pounded rock, used by tribes inhabiting regions where such are non-existent or not readily obtainable.

---

[43] The resin obtained from the *palo santo* (*Bulnesia Sarmienti*) is used by some of the Chaco tribes for decorating pots, after they have been fired. But it is difficult to understand the mention of "birds' quills."

[44] Outes, Félix F., *La cerámica Chiriguana,* p. 123.

[45] Boman, Eric, *Antiquités,* etc., 482.

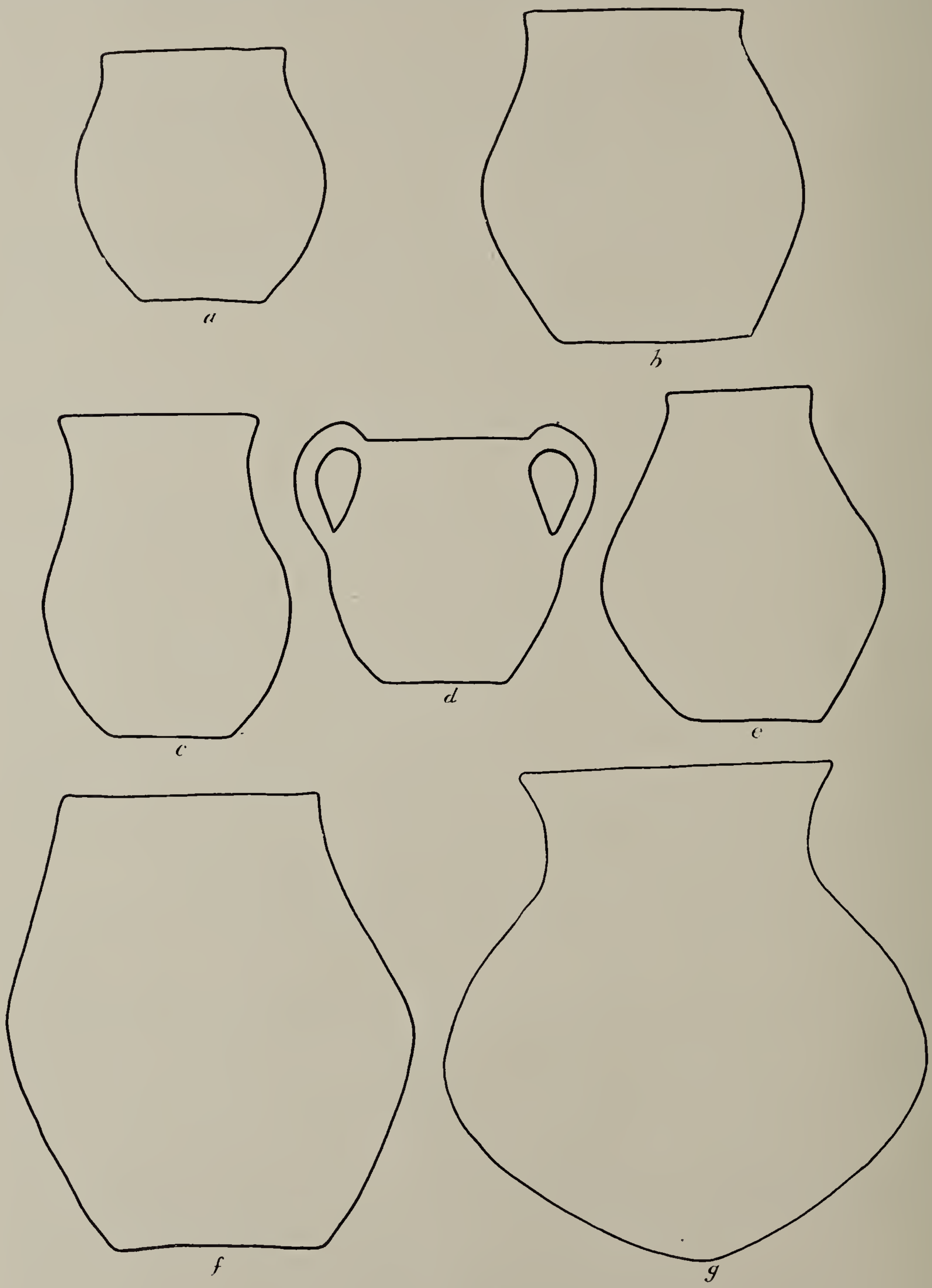


Fig. 33—PROBABLE FORMS OF THE POTTERY

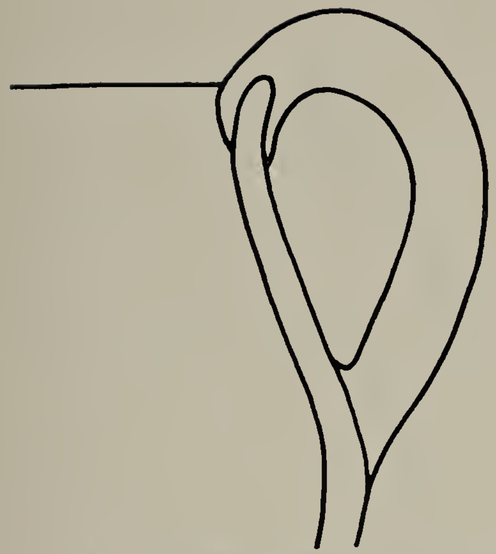


FIG. 34—SECTION OF MODERN POT TO SHOW THE METHOD OF ATTACHING THE HANDLE

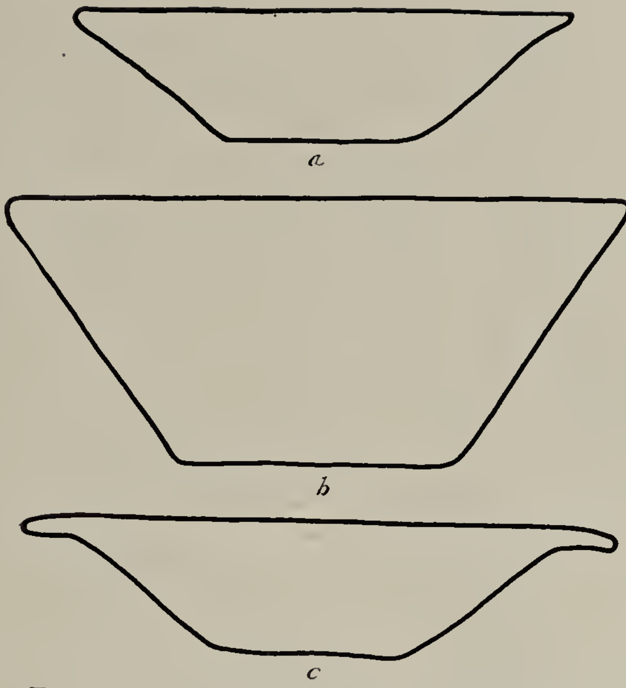


FIG. 35—PROBABLE FORMS OF THE POTTERY

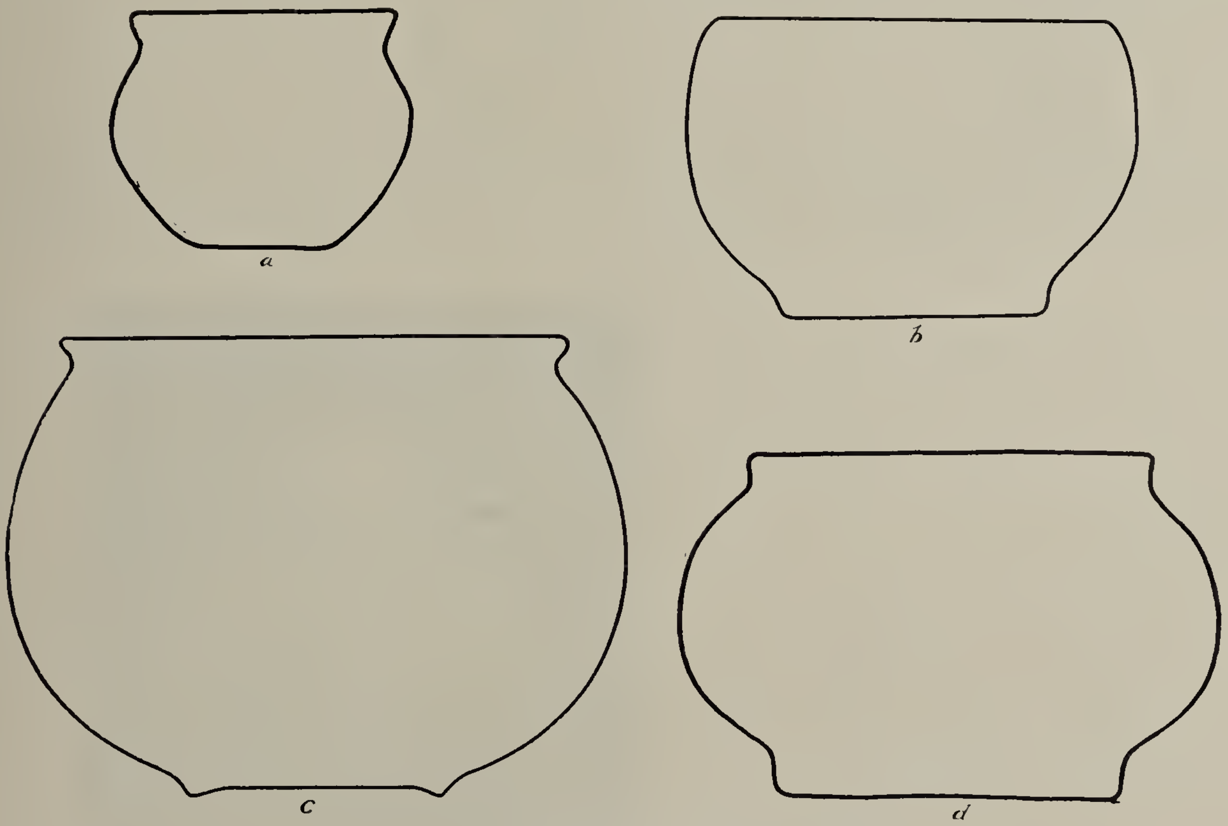


FIG. 36—PROBABLE FORMS OF THE POTTERY

Remembering the great conservatism of the indigenous tribes, there is little doubt that the technique of the potters of the present day differs but little from that of their prehistoric forefathers.

Probable Forms. In view of the very fragmentary state of almost the whole of the ceramic material, it is perhaps somewhat rash to attempt to reconstruct the shapes of the vessels, but, availing myself of the few elements at my disposal, including examples of

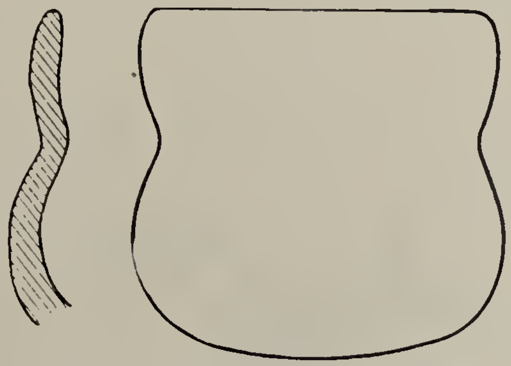


FIG. 37—RECONSTRUCTION OF A SMALL POT OF AN UNCOMMON TYPE

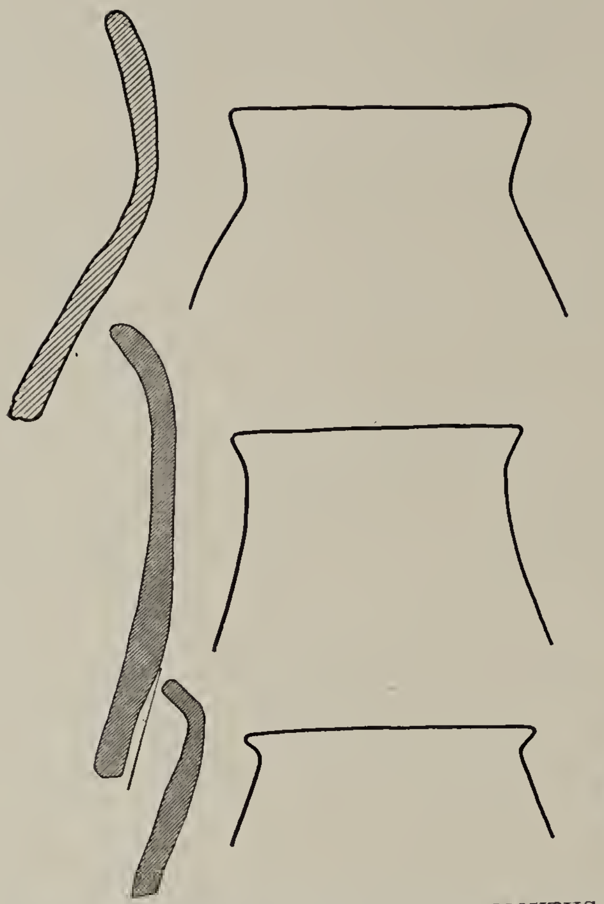


Fig. 38—Reconstruction of the mouths of large vessels based on labial fragments

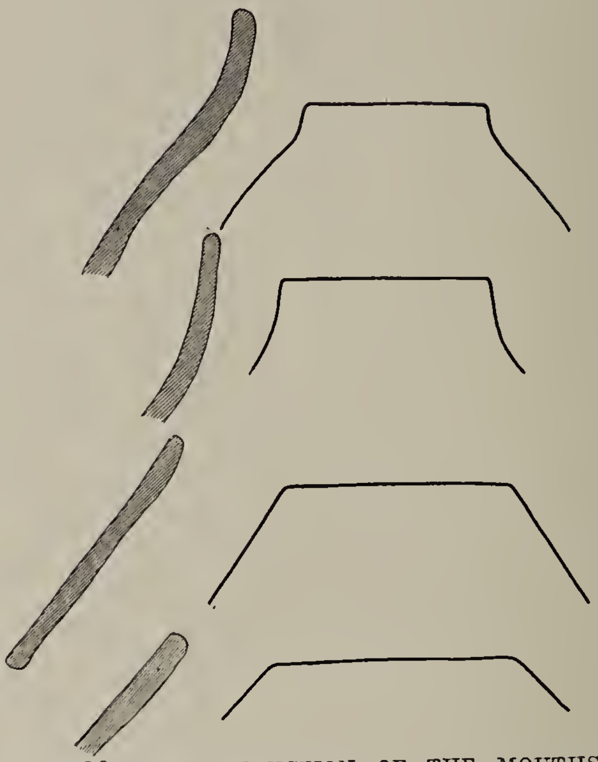


Fig. 39—Reconstruction of the mouths of large vessels based on labial fragments

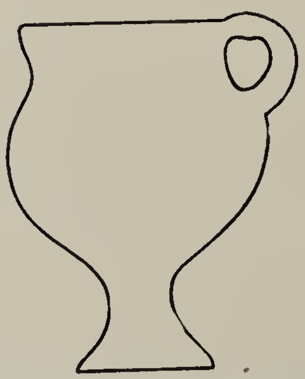


Fig. 40—Type of vessel not uncommon in the Andean region

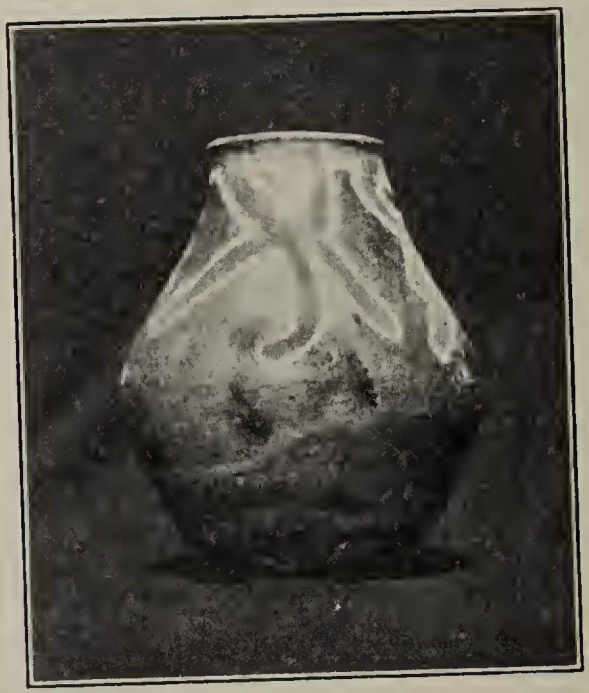


Fig. 41—Modern pot with painted decoration

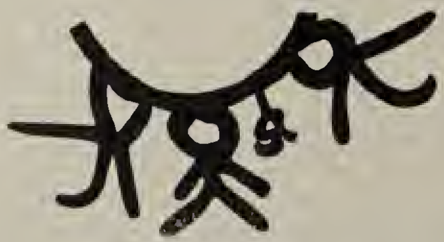


Fig. 42—Design painted on the pot shown in Fig. 41

modern pottery made in the region, and in the neighboring province of Santiago del Estero, I have made the effort, with the following result.

Figs. 33, 35, 36, 37 show the probable shapes of the pottery in general. Of these, Figs. 33 *g*, 36 *a–d*, and 37 are forms reconstructed from a number of fragments (bases, walls, and rims) of sufficient size to furnish the necessary dimensions,—the height, diameters of the mouths and bases, and maximum diameter of the bodies of the pots. I have also included figures showing the upper part of seven pots, obtained from labial fragments large enough to give the diameter of the mouth and the angle of inclination of the walls (Figs. 38 and 39). Fig. 36 *a* and 37 are of unusual shape; a small vase, almost identical with No. 37 is figured by Ambrosetti,[46] and a pot of this peculiar form has been found in Catamarca.[47] Large pots, very like Fig. 33 *g*, have been found in the provinces of Salta[48] and Catamarca.[49] A base of exceptional form, from San Roque, seems to have belonged to a vase of the form shown in Fig. 40. This type of vessel is not uncommon in the Andean region.[50]

Modern Pottery. The process of manufacture of the modern, handmade pottery of the province of Córdoba, has already been described; the usual shapes are those of Fig. 33 *a–f*. Fig 33 *d* is a pot provided with a handle, which is placed vertically, the ends being splayed out, the lower one pressed firmly against the body of the pot, while the upper one is folded over the rim and squeezed against the inner face (Fig. 34). This and Fig. 33 *h* have the rough, scratched decoration round the top immediately below the rim. Fig. 33 *e* has a design painted around the rim, in red (Figs. 41, 42). One of the figures seems to be anthropomorphic.

Two of the pots were in use, one as a cooking pot, the other for the household stock of salt; the others are unused. They are of poor make and uneven firing; the paste contains large particles of calcareous matter, never found in the clay of the old pots.

AUTHORS CONSULTED

AMBROSETTI, JUAN B. Algunos vasos ceremoniales de la región Calchaquí, *Anales del Museo Nacional de Buenos Aires,* tomo 7, 2ª serie 4, Buenos Aires, 1902.

Exploraciones arqueológicas en la Pampa Grande (Provincia de Salta), *Sección antropológica de la Facultad de Filosofía y Letras,* Buenos Aires, 1906.

Exploraciones arqueológicas en la ciudad prehistórica de ''La Paya'' (Valle Calchaquí-Provincia de Salta), Campañas de 1906 y 1907, *Revista de la Universidad de Buenos Aires,* 1907, tomo 8, Buenos Aires, 1907.

AMEGHINO, FLORENTINO. *La antigüedad del hombre en el Plata,* Paris-Buenos Aires, 1880–1881.

BOMAN, ERIC. *Antiquités de la région andine de la République Argentine et du désert d'Atacama,* Paris, 1908.

Las ruinas de Tinti en el valle de Lerma (Provincia de Salta), *Anales del Museo Nacional de Historia Natural de Buenos Aires,* tomo 28, Buenos Aires, 1916.

Cementerio indígena, en Viluco (Mendoza) posterior a la Conquista, *Anales del Museo de Historia Natural de Buenos Aires,* tomo 30, Buenos Aires, 1920.

---

[46] Ambrosetti, Juan B., Exploraciones arqueológicas en la ciudad prehistórica de ''La Paya'' (Valle Calchaquí-Provincia de Salta), *Revista de la Universidad de Buenos Aires,* 1907, tomo 8, Fig. 200, p. 385.

[47] Debenedetti, Salvador, La influencia hispánica en los yacimientos arqueológicos de Caspinchango (Provincia de Catamarca), *Revista de la Universidad de Buenos Aires,* tomo 46, Fig. 14, p. 27.

[48] Ambrosetti, Juan B., *Exploraciones arqueológicas en la Pampa Grande,* Fig. 73, p. 78.

[49] Debenedetti, Salvador, *La influencia hispánica,* etc., Figs. 5, 6, p. 19.

[50] Ambrosetti, Juan B., *Exploraciones arqueológicas en la cuidad prehistórica de ''La Paya,''* Fig. 140, p. 299; Bruch, Carlos, *Exploraciones arqueológicas,* etc., Figs. 75–78, pp. 78, 79; Boman, Eric, *Antiquités,* etc., Pl. XIV, Fig. 28, a, c; Debenedetti, Salvador, *La influencia hispánico,* etc., Fig. 8, *a, b, c,* p. 22.

Bruch, Carlos. Descripción de algunos sepulcros Calchaquíes, resultado de las excavaciones efectuadas en Hualfín (Provincia de Catamarca), *Revista del Museo de La Plata*, tomo 9, La Plata, 1904.

Exploraciones arqueológicas en las provincias de Tucumán y Catamarca, *Biblioteca Centenaria*, tomo 5, Buenos Aires, 1911.

Bushnell, David I. Archaeological Investigations in Ste. Genevieve County, Missouri, *Proceedings, United States National Museum*, vol. 46, Washington, 1914.

Cabrera, Jerónimo Luis De. Relación sobre los descubrimientos de Don Gerónimo Luis de Cabrera en las provincias de los Juríes, *Relaciones geográficas de Indias*, Perú, tomo 2, Madrid, 1885.

Cushing, Frank Hamilton. A Study of Pueblo Pottery as illustrative of Zuñi Culture Growth, *Fourth Annual Report, Bureau of Ethnology*, 1882–83, Washington, 1886.

The Germ of Shore-Land Pottery, An Experimental Study, *Memoirs, International Congress of Anthropology*, Chicago, 1894.

De Aparicio, Francisco. Investigaciones arqueológicas en la región serrana de la provincia de Córdoba (Breve noticia preliminar (*Gaea, Anales de la Sociedad Argentina de Estudios Geográficos*, 1925, no. 1, Buenos Aires, 1925.

Investigaciones científicas en el litoral Atlántico de la provincia de Buenos Aires, *Anales de la Sociedad Argentina de Estudios Geográficos ''Gaea,''* año 1925, no. 4, Buenos Aires, 1925.

Debenedetti, Salvador. Investigaciones arqueológicas en los valles preandinos de la provincia de San Juan, *Revista de la Universidad de Buenos Aires*, tomo 32, Buenos Aires, 1916.

La influencia hispánica en los yacimientos arqueológicas de Caspinchango (Provincia de Catamarca), *Revista de la Universidad de Buenos Aires*, tomo 46, Buenos Aires, 1921.

Frenguelli, Joaquín. Conchas de ''Borus'' en los paraderos indígenas del río San Roque (Sierra Chica de Córdoba-Departamento de Punilla), *Boletín de la Academia Nacional de Ciencias de Córdoba*, tomo 26, Buenos Aires, 1923.

Frenguelli, Joaquín, y De Aparicio, Francisco. Los paraderos de la margen derecha del Río Malabrigo (departamento de Reconquista, prov. de Santa Fé), *Andes de la Facultad de Ciencias de la Educación*, tomo 1, Paraná, 1923.

Gardner, G. A. The Use of Textiles in the Manufacture of Pre-Hispanic Pottery in the Province of Córdoba (Argentine Republic), *Revista del Museo de La Plata*, tomo 24, segunda parte, 2a serie, tomo 12, Buenos Aires, 1919.

Grubb, W. Barbrooke. *An Unknown People in an Unknown Land. An Account of the Life and Customs of the Lengua Indians of the Paraguayan Chaco, with Adventures and Experiences during Twenty Years' Pioneering and Exploration amongst them*, London, 1925.

Holmes, William H. Prehistoric Textile Fabrics of the United States derived from Impressions on Pottery, *Third Annual Report, Bureau of Ethnology*, 1881–1882, Washington, 1884.

Pottery of the Ancient Pueblos, *Fourth Annual Report, Bureau of Ethnology*, 1882–83, Washington, 1886.

Ancient Pottery of the Mississippi Valley, *Fourth Annual Report, Bureau of Ethnology*, 1882–83, Washington, 1886.

Origin and Development of Form and Ornament in Ceramic Art, *Fourth Annual Report, Bureau of Ethnology*, 1882–83, Washington, 1886.

A Study of the Textile Art in its Relation to the Development of Form and Ornament, *Sixth Annual Report, Bureau of Ethnology*, 1884–85, Washington, 1888.

Prehistoric Textile Art of the Eastern United States, *Thirteenth Annual Report, Bureau of Ethnology*, 1891–92, Washington, 1896.

Use of Textiles in Pottery Making and Embellishment, *American Anthropologist*, n. s., vol. 3, no. 3, New York, 1901.

Aboriginal Pottery of the Eastern United States, *Twentieth Annual Report, Bureau of Ethnology*, 1898–99, Washington, 1903.

Joyce, Thomas A. *South American Archaeology, an Introduction to the Archaeology of the South American Continent with special reference to the Early History of Perú,* London, 1912.

Mexican Archaeology, an Introduction to the Archaeology of the Mexican and Mayan Civilizations of Pre-Spanish America, London, 1914.

Central American and West Indian Archaeology, being an Introduction to the Archaeology of the States of Nicaragua, Costa Rica, Panamá and the West Indies, London, 1916.

Lafone Quevedo, S. A. Catálogo descriptivo é illustrado de las huacas de Chañar Yaco (Provincia de Catamarca), *Revista del Museo de La Plata,* tomo 3, La Plata, 1892.

Las ruinas de Pajanco y Tuscamayo entre Sijan y Pomán, Provincia de Catamarca, *Revista del Museo de La Plata,* tomo 10, La Plata, 1902.

Viaje arqueológico en la región de Andalgalá, 1902–1903, *Revista del Museo de La Plata,* tomo 12, La Plata, 1906.

Tipos de alfarería en la región Diaguito-Calchaquí, *Revista del Museo de La Plata,* tomo 15, Buenos Aires, 1908.

Linné, S. The Technique of South American Ceramics, *Götborgs Kungl. Vetenskaps- och Vitterhets-Samhälles Handlingar, fjärde följden,* Band 29, no. 5, Göteborg, 1925.

Lozano, Pedro. *Historia de la conquista del Paraguay, Río de la Plata y Tucumán,* Buenos Aires, 1873–1875.

Mason, Otis Tufton. The Technic of Aboriginal American Basketry, *American Anthropologist,* n. s., vol. 3, no. 1, New York, 1901.

Aboriginal American Basketry. Studies in a Textile Art without Machinery, *Annual Report, Smithsonian Institution,* 1902; *Report, United States National Museum,* Washington, 1904.

Medina, José Toribio. *Los aboríjines de Chile,* Santiago, 1882.

Nordenskiöld, Erland. *Forskningar och äventyr i Sydamerika,* Stockholm, 1915.

Outes, Félix F. *Los Qucrandíes,* Buenos Aires, 1897.

Arqueología de Hucal (Gobernación de la Pampa), *Anales del Museo Nacional de Buenos Aires,* serie 3, tomo 4, Buenos Aires, 1905.

La alfarería indígena de Patagonia, *Anales del Museo Nacional de Buenos Aires,* serie 3, tomo 4, Buenos Aires, 1905.

Alfarerías del Noroeste Argentino, *Anales del Museo de La Plata,* 2a serie, tomo 1, Buenos Aires, 1907.

La cerámica Chiriguana, *Revista Museo del La Plata,* tomo 16, 2a serie 3, Buenos Aires, 1909.

Los tiempos prehistóricos y photohistóricos en la provincia de Córdoba, *Revista del Museo de La Plata,* tomo 17, 2a serie 4, Buenos Aires, 1910–1911.

Nuevos rastros de la cultura Guaraní en la cuenca del Paraná inferior, *Anales de la Sociedad Centífica Argentina,* tomo 85, Buenos Aires, 1918.

Nuevo jalon septentrional en la dispersión de representaciones plásticas de cuenca paranaense y su valor indicador, *Anales de la Sociedad Científica Argentina,* tomo 85, Buenos Aires, 1918.

Algunos datos sobre la arqueología de la provincia de San Luis, ''*Physis,*'' *Revista de la Sociedad Argentina de Ciencias Naturales,* tomo 8, no. 30, Buenos Aires, 1926.

Reyes, César. ¿Bóvedas funerarias de tierra cocida diaguitas? *Revista de Dercho, Historia y Letras,* año 22, tomo 66, Mayo, 1920, Buenos Aires, 1920.

Rosen, Eric Von. *Popular Account of Archaeological Research during the Swedish Chaco-Cordillera Expedition 1901–1920,* Stockholm, n.d.

Serrano, Antonio. *Contribución al conocimiento de la arqueología de los alrededores de Paraná,* Paraná, 1921.

Sobre un nuevo procedimiento en la técnica alfarera del Litoral, *Prometeo,* año 1, no. 16, Paraná, 1922.

Arqueología de Las Tejas (Provincia de Santa Fé), *Revista Universitaria del Litoral,* no. 12, Paraná, 1922, Buenos Aires, 1923.

im Thurn, Everard F. *Among the Indians of Guiana, being Sketches chiefly Anthropologic from the Interior of British Guiana,* London, 1883.

TORRES. LUIS MARÍA. Arqueología de la cuenca del río Paraná, *Revista del Museo de La Plata,* tomo 14, segunda serie 1, Buenos Aires, 1907.

Los primitivos habitantes del delta del Paraná, *Universidad Nacional de La Plata, Biblioteca Centenaria,* tomo 4, Buenos Aires, 1911.

Arqueología de la península de San Blas (Provincia de Buenos Aires), *Revista del Museo de la Plata,* tomo 26, Buenos Aires, 1922.

UHLE, MAX. *Pachacamac,* Philadelphia, 1903.

VERNEAU, R. Les récentes decouvertes préhistoriques en Indochine, *L'Anthropologie,* tome 35, nos. 1–2, Ávril, 1925.

WISSLER, CLARK. *The American Indian. An Introduction to the Anthropology of the New World,* New York, 1917.

BUENOS AIRES,
ARGENTINE.

FUNDE ALTSTEINZEITLICHER WERKZEUGE IM ALTO PARANÁ GEBIET

Von F. C. Mayntzhusen

WÄHREND in Europa Funde verschiedenster Steinwerkzeuge, deren primitive Technik des Behauens man als altsteinzeitlich bezeichnet, so häufig sind, dass man verschiedene auf einander folgende Stufen oder Kulturen feststellen und sie chronologisch, nach den sie begleitenden zoologischen Funden, einordnen könnte, sind meines Wissens solche Funde weder aus Nord- noch aus Südamerika bisher bekannt geworden.

Die Funde, welche seiner Zeit Fl. Ameghino in der Umgebung von Monte Video machte, und welche er einer altsteinzeitlichen Kultur zuschrieb, wurden von Felix F. Outes als zumteil rezent und zumteil zweifelhaften Alters klassifiziert.

Ebenso wurden die von Ameghino als von hohem Alter angesprochenen Fundstücke, die von der atlantischen Küste zwischen Mar del Plata und dem Rio Negro stammten, von dem bekannten Anthropologen Doktor Hrdlička, der eine Sammlung von 1500 Stücken dieser Gegenstände nach Nord-Amerika brachte, nach eingehender Prüfung des Fundortes, gemeinsam mit Doktor Holmes in Washington, als von jüngeren Stämmen herrührend bestimmt, wobei festgestellt wurde, dass dieselben Werkzeuge sich bei den Stämmen fandten, welche die atlantischen Küsten Nordamerikas zur Zeit der Entdeckung durch die Europäer bewohnten.

Die in Miramar (Rep. Argentina) gefundenen und von Eric Boman beschriebenen Gegenstände menschlicher Bearbeitung sollen dem ältesten Pleistocen, wenn nicht dem Terciär angehören; über Bestätigung dieser Mitteilungen durch neuere Studien ist mir nichts bekannt geworden.

Bei meinen Funden handelt es sich um Steinwerkzeuge, die ich seit etwa zehn Jahren, zum grössten Teil auf eigenem Lande, immer wieder gemacht habe, und die ich nach gewissenhafter Prüfung der Fundumstände einer in sehr alter Zeit diese Gegend bewohnenden Bevölkerung, deren Kultur in Südamerika vollständig verschwunden ist, zuschreiben muss.

In Anbetracht der Wichtigkeit altsteinzeitlicher Funde für die Klärung der Frage nach dem Alter des Menschen in diesem Weltteil schickte ich für die Mitglieder des XXIII Internationalen Amerikanisten Kongresses drei typische Stücke der am meisten vorkommenden Form oben erwähnter Werkzeuge, zur Ansicht und Begutachtung, wodurch sich eine eingehende Beschreibung erübrigt.

Über den geologischen Aufbau der Gegend des Fundortes kann ich als Nicht-Geologe nur folgende unmassgeblichen Angaben machen.

Auf dem Urgestein vulkanischem Ursprungs, das den Untergrund dieses Teiles des Alto Paraná Gebietes (zwischen der paraguayischen Kolonie Hohenau im Süden und den Guairafällen im Norden) bildet und im Flussbett zu Tage tritt, findet sich eine graue Tonschicht von geringer Stärke und auf dieser eine

Schicht roten Lehms von wechselnder, bis zu 20 Metern erreichender Mächtigkeit. Diese Schicht is zweifellos äolen Ursprungs, sie erfüllt alle Bedingungen um als Löss angesprochen zu werden, ist strukturlos und von ganz ausserordentlich feinkörniger (staubiger) Beschaffenheit. Sie schliesst niemals Steine als Geröll oder in anderer Form ein, aber es kommt vor, dass der felsige Untergrund, wo er hohe Riffe bildete, nicht von ihr bedeckt wurde und dass dann einzelne Felsen über sie hinausragen. Diese Lössschicht findet sich nur oben auf den breiten Bodenwellen zwischen den Zuflüssen des Alto Paraná; an geneigten Stellen des Geländes, wie z.B. an den Abdachungen zu den genannten Zuflüssen ist sie durch Erosion der Niederschläge verschwunden und verwitterte Gesteinsmassen liegen hier zu Tage.

Wie erwähnt, ist die ganze rote Lössschicht strukturlos, also einheitlich und ohne Schichtung. Nur in der Färbung unterscheidet sich der alleroberste Teil in einer Stärke von etwa 30 bis 40 cm. Er ist deutlich dunkler, das heisst, bis rotbraun gefärbt und somit verschieden von der übrigen, ziegelroten Lehmmasse.

In dieser Gegend des Alto Paraná ist das Gebiet der Lateritböden, wie man die Lössmassen ihrer roten Farbe wegen nennen könnte, von dichten Urwäldern bedeckt, die erst neuerdings, d.h., seit der Jahrhundertwende, von Kolonisten urbar gemacht wurden.

Auf einem Stück Landes von einigen Hektaren Grösse, 300–400 m. vom Paraná Ufer entfernt, südlich der Einmündung des Baches Yaguarazapa, auf tiefgrundigem Lösslehm, dessen Urbarmachung etwa seit 1910 in Angriff genommen wurde, fandt ich in diesen Jahren, besonders beim und nach dem Pflügen, Steine die auf dem sonst vollständig steinlosen Land meine Aufmerksamkeit erregten und bald von mir als primitive Werkzeuge erkannt wurden. Die Schlagmarken, welche jeder dieser Steine aufweist, lässt deutlich die beabsichtigte Schaffung bestimmter Formen erkennen.

Eine dieser Formen, die nicht sehr häufig ist, bildet einen pyramidenförmigen Keil mit ziemlich breiter Grundfläche, die sich aber mit einer Hand noch gut umspannen lässt. Von ihnen finden sich in meiner Sammlung nur vier Stück.

Einen faustgrossen, runden, allerseits Schlagmarken zeigenden Stein möchte ich als Behaustein zur Verfertigung der andern Werkzeuge ansprechen.

Die Mehrzahl der Steine aber hat die Form der vorliegenden Werkzeuge. Ein länglicher Stein, von ovalem Durchschnitt am basalen Ende, zeigt am andern Ende eine flache Spitze von paraboloidem Umriss mit mehr oder weniger gut herausgearbeiteter Schärfe.

Die Werkzeuge passen sich gut der Innenfläche der Hand an, wenn man die Spitze über den umklammernden kleinen Finger hinausragen lässt und könnten deshalb wohl als Faustkeile bezeichnet werden. Einige etwas kleinere und ein dick-flaches Exemplar meiner Sammlung lassen aber auch eine Schäftung möglich erscheinen. Auch der häufig vorhandene Wulst in der Mitte des Werkzeuges würde für eine Befestigung mit Umwicklung an einem Schafte sprechen.

Es war naheliegend, bei den genannten Funden daran zu denken, dass vielleicht die Guaranistämme, welche bis zur Jesuitenzeit (bis um die Mitte des siebenzehnten Jahrhunderts) die Ufer das Paraná bewohnten, die Hersteller dieser

Werkzeuge, die z.B. als Keile zum Holzpalten gedient haben könnten, gewesen wären. Dagegen sprach erstens, dass in den in der Nähe befindlichen Siedlungsplätzen der Guarani, die von mir methodisch aufgegraben und untersucht worden sind, wohl auch Steinkeile, nicht aber diesen Instrumenten ähnlich, gefunden wurden. Zweitens hätten die Guaranistämme, welche später die Jesuitenmissionen besiedelten, da sie vorzügliche Töpfer waren und überall Topfscherben als Spuren hinterliessen, auf einem Stück Lande, wo sie, nach der Zahl der gefundenen Werkzeuge zu urteilen, entsprechend lange und viel gearbeitet hatten, auch viele Topfscherben hinterlassen. Tonscherben sind aber niemals bei diesen Steingeräten gefunden worden. Drittens haben die gearbeiteten Steine nicht an der Oberfläche gelegen sondern wurden meistens vom Pfluge an die Oberfläche gebracht, anscheinend aus einer Tiefe von 30 bis 40 cm. d.h. von der untern Grenze der dunklen Schicht des Lösslehms, nur am Talhange lagen einige frei auf dem felsigen Untergrund.

Bezüglich des Alters der Entstehung der obersten dunklen Schicht des Lösslehms steht mir als Nicht-Geologen eine Beurteilung nicht zu. Bailey Willis in seinen Studien über die Pampasformation erwähnt, dass, wenn man in Südamerika auch nicht von Eiszeiten wie in Europa reden könnte, man doch trockene und feuchte geologische Perioden unterschiede (die möglicherweise den Eiszeiten entsprachen).

Um in dieser Beziehung für unsere Gegend Anhaltspunkte zu gewinnen habe ich im Flusstal des Paraná, auf einem vom Flusse abgelagerten Sandfeld, in dessen Nähe auch ein tiefer Brunnen gegraben worden war, einen Einstich gemacht und gefunden, dass unter der vom Paraná abgelagerten, nur 40 cm. starken Schicht grauen, sandigen Bodens, der nur von den allerhöchsten (man sagt nur alle zwanzig Jahre stattfindenden) Überschwemmungen dorthin gebracht werden konnte, eine rote Schicht sandigen Lehms bis auf den Tonboden, resp. Felsen, reichte. Diese Erscheinung möchte ich so deuten, dass dieser Löss (wie natürlich) während einer langen Trockenperiode sich bildete und während der Zeit seines Entstehens niemals von Überschwemmungen des Paraná gestört wurde, solche traten erst in späterer regenreicher Epoche ein und lagerten die beschriebene obere graue Schicht ab. Die vom Paraná abgelagerten Schichten sind stets grau, nie rot.

Unter der besagten, 40 cm. dicken, grauen Schicht fandt ich 10 cm. tief im roten Lehm eingebettet, einen gleichartigen Keil mit dazu gehörigen Absplissen wie die Keile, welche der Pflug auf dem ca. 40 m. über dem Paraná gelegenen hohen Lande zutage gefördert hatte.

Nach diesen Beobachtungen könnte man wohl annehmen, dass das Volk, welches diese primitiven Werkzeuge herstellte, zu Ende der lössbildenden Trockenperiode am Alto Paraná gelebt hätte. Anzunehmen ist auch, dass diese Bevölkerung eine verhältnismässig starke war oder sehr lange Zeit hier hauste, nur so wäre die Häufigkeit der nicht zutage liegenden, also nur zum Teil aufgefundenen Fundobjecte zu erklären. Über das Verbreitungsgebeit etwas zu erforschen verhindert vorläufig der alles bedeckende Urwald. Ein den Paranafunden durchaus ähnliches Werkzeug wurde auf einem breiten Waldwege, in 20 km. Entfernung vom Paraná gefunden. Auch vom argentinischen Ufer des

Flusses, aus der Kolonie Puerto Rico sandte mir Herr Doktor Wlotzka, den ich auf die Funde aufmerksam gemacht hatte, ein ähnliches Werkzeug, das man dort bei Erdarbeiten im steinlosen Lösslehm, bei denen man ein viertel bis ein halb Meter tief gegangen war, zutage gefördert hatte.

Es sind in dieser Gegend (die Kolonie Mayntzhusen liegt auf 26° 55′ 20″ südlicher Breite und 3^h 40^m 30^s westlich von Paris) ausser den erwähnten und vorliegenden Funden auch andere, anscheinend altsteinzeitliche gemacht worden, die zumteil sehr schöne Flächenretouche zeigen, von denen ich aber bisher nicht feststellen konnte, in welcher Beziehung sie zu der oben beschriebenen Kultur aus dem Ende der Lössperiode stehen. Hierher gehören sehr grosse flache Pfeil- resp. Lanzenspitzen, die an verschiedenen Stellen Südbrasiliens und bei Encarnacion gefunden wurden. Eine derartige, abgebrochene Spitze fand ich am Alto Paraná Ufer unserer oben beschriebenen Gegend 1.20 m. tief in einem Sandfelde unter Urnenbeisetzungen der Guarani, mit denen sie aber nichts zu tun hat, zwischen feinen, den Sand durchsetzenden Lösschichten.

Das schönste Stück in meinem Besitze ist eine dünn-flache, mandelförmige 'Acheul' Axt von 13 cm. Länge zu 8.75 cm. Breite und einer grössten Dicke von 1 cm., die nahe bei Encarnacion im Paraná gefunden wurde und sehr schöne Flächenretouche zeigt.

Alle erwähnten Werkzeuge sind wie die vorliegenden aus einer am Alto Paraná häufig anstehenden, spröden Gesteinsart gefertigt.

Alto Paraná, Paraguay

ARQUEOLOGIA DEL DEPARTAMENTO DE LIMA—CARACTERES FUNDAMENTALES DE LA ARQUITECTURA ANDINO COSTEÑA

Por Pedro Eduardo Villar Cordova

Geografía Fisica

El Departamento de Lima está situado en la región central de la costa del Perú, comprendido entre los departamentos de Ancachs por el N.; Junín y Huanavelica por el E.; Ica por el S.; la Provincia Constitucional del Callao y el Océano Pacífico por el O.

Ortografía

El ramal occidental de la Cordillera de los Andes atravieza el Departamento de Lima en todo su largo por el límite oriental, presentando en su vasta extensión los picos más altos de nieve perpetua que toman los nombres de los lugares por donde pasan. Dejando las frígidas punas de Castrovirreina, la Cordillera Occidental marítima desdobla hacia el E. de Ica y luego se enfila por el E. de Yautes con el nombre de Cordillera de Pariacaca, cuyos picos se elevan considerablemente en los sitios de Tuctumacanca y el Portachuelo de Calanche a 4800 metros; de Tragadere a 4683 metros; de Piedra Parada a 5019 metros; y el Paso de Antarangra a 4714 metros. En la Provincia de Huarochirí el pico más alto toma el nombre de Monte Meiggs en recuerdo del sabio ingeniero Meiggs que lo transmontó, en cuya cima está Ticllo que ofrece la imponencia de un soberbio tunel La Galera que mide unos 3 kilometros de subterráneo en la línea del Ferro-carril Central del Perú y a 4768 metros sobre el nivel del mar; el nevado de Antacachsa a 5490 metros; el de Anticona, Tucto, Antacoto, Turriyoc, Lacsahuallo, Huancoschs, Yanacallapa, y Antarangra, cubiertos constantemente con un manto de nieve.

La misma Cordillera al penetrar a la Provincia de Canta recibe el nombre de La Viuda en recuerdo de una antigua teogonía que "considera a la diosa Pacha-Mama como viuda del dios Pachacamac, muerto ahogado en el Mar Pacífico frente a Lurín cuando comenzó el reinado de sus hijos el Sol y la Luna," cuya altura es de 4655 metros; los picos de Kurmán, Alay, Tuyún, Puajanca, Huamayte, Chungar y Antaquirca, que se dirigen hacia el N. con una altura de 4500 a 5000 metros. En la provincia de Cajatambo es notable el Nudo de Oyón y el Paso de Carpacunca en la altura de 4877 metros.

En la extensión comprendida por estas provincias de esta Cordillera Occidental se desprenden hacia el Océano Pacífico varios ramales o contrafuertes cisandinos que se extienden perpendicularmente al macizo central, formando las quebradas de Huaura, Sayán, Chancay o Pasamayo, Chillón o Carahuayllo, Rímac, Scieneguilla, Pachacamac, Mala y Lunahuaná. Estas quebradas abarcan naturalmente las dos regiones: La Costa y la Sierra con sus correspondientes cejas, cuyos caracteres son: La Sierra, en una anchura de 15 leguas, presenta quebradas estrechas y profundas, cerros escarpados por su base y cubierto de vegetación por su cima, rocas salientes que parecen desplomarse, vallecitos estrechos con vertientes inclinadas de los cerros y llanos altos inclinados aptos para el cultivo. La Costa, entre las 20 leguas de ancho, presenta un suelo menos accidentado, se ven valles más anchos, cerros poco elevados que van descendiendo y abriéndose constantemente para formar las extensas tabladas y arenales formados por las las riberas de los ríos y del Océano Pacífico, el cual forma a lo largo de la costa una barrera sinuosa que da origen puntas y promontorios, cada cual más importante por haber servido de cuna de los primeros aborígenes de la región de la costa.

Es un hecho comprobado que la acción constante de las aguas de los ríos y de los mares, de los hundimientos y levantamientos de la costra de esta región han dado origen a estos accidentes del suelo, donde tuvieron su cuna los primitivos hombres de las épocas paleolítica y neolítica, quedando, más tarde, todo convertido en escombros.

Hidrografía

El Departamento de Lima está bañado, desde su origen, por los ríos que corren de E. a O. y son éllos, viniendo de N. a S.: El Pativilca, el Supe, el Huara, el Pasamayo o Chancay, el Chillón o Carahuayllo, el Rímac, el Lurín, el Mala, el Omas y el Cañete. Estos ríos tienen su origen, unos, en las vertientes de los Andes por los deshielos de sus cumbres, otros, en las risueñas lagunas de las punas, y por fin, en los manantiales de agua subterránea. Sus aguas serpentean silenciosa o chillonamente por las quebradas profundas y valles arenosos, formados por los contrafuertes andinos y pliegues naturales del terreno.

Hidráulica

CANALES

Para aprovechar de las aguas, en las altas vertientes de los cerros y quebradas en la agricultura, los antiguos agricultores construían canales artificiales que partían de la cumbre de los cerros y llevaban las aguas hasta los bajos de la costa aún eran confeccionados con piedra y barro en la Sierra, con piedra en la base y barro pisonado o adobones en la Costa. Los canales, así como las habitaciones, ocupaban los sitios elevados a fin de dar mayor extensión a los campos de cultivo.

Los canales de piedra que mayor distancia recorren en las quebradas del Departamento de Lima, son: el canal de Gorgor, en la quebrada de Cajatambo; el canal de Luculacumbi, en Lumbra, levanta las aguas hasta las lomas de Lachay en la Provincia de Chancay; las canalizaciones de los Atawillos, de Pacaraos y de Lampián extendidos en la quebrada del Pasamayo, de Culluhuay, de Cantamarca, de Tauripunco, de Cucucha, de Yasu, de Macas y de Carahuayllo en la quebrada de Chillón en la provincia de Canta; la canalización de Jicamarca que recorre desde la Cordillera de los Andes hasta los arenales de Nieverí en la Provincia de Huarochirí; las canalizaciones de todo el sector de la quebrada Yauyos-Cañete llevaban sus aguas hasta los grandes desiertos que antiguamente eran cultivados, tales como, los de Acia, Huarcu, Pacarán y Lunahuaná en la Provincia de Cañete.

Las canalizaciones de los valles de la Costa recibían las aguas de los otros canales andinos, ya sea en las tomas o distribución de aguas laterales, ya sea, directamente, de los ríos o represas.

El corte vertical de un canal presenta estas características: dos murallas laterales y perfectamente paralelas que llevan entre 50 centímetros de ancho por 1.50 metro de alto cada una, comprendiendo un cavidad de 1 metro de ancho de canal, abierto bajo el nivel del suelo, artificialmente; el piso del fondo del canal estaba empedrado y por arriba los cubría grandes piedras lajas a manera de losetas, horizontalmente. En algunos lugares se depositó encima de las losetas una gran cantidad de tierra, a tal punto, que con el transcurso del tiempo quedaron los canales enterrados, presentando un acueducto subterráneo o socavón.

REPRESAS

Por medio de un trabajo de gradería se abría en el suelo un gran pozo, generalmente de forma circular u ovoidal: se reforzaba sus paredes laterales con delgados muros de piedra y champa, el piso del fondo del tanque estaba empedrado, una abertura cuadrangular y lateral hacia el nivel del fondo llevaba una pesada piedra de caras planas y paralelas que atada a una resistente soga de cabuya hacía de válvula, convenientemente acomodada para subir y bajar; el ducto de salida de agua represada parte del fondo de la represa en sentido vertical, luego toma la dirección de un plano inclinado de 70° de altura para llegar a la base del canal que toma la dirección horizontal definitiva. Sin duda alguna el aspecto de gradería que se dió al conducto de salida fué para regularizar la fuerza de impulsión del agua, impidiendo, de este modo, el desfondamiento del tan que: a lo que contribuía la mayor a menor abertura de la válvula.

GEOGRAFIA INDUSTRIAL

LA VIDA DEL HOMBRE PRE-HISTORICO

Los pueblos primitivos de la era primordial en el Departamento de Lima, tanto en la Sierra como en los valles de la Costa, tenían como únicos medios de procurarse el sustento los siguientes: la caza, las pesca y la recolección de plantas y frutos silvestres. Los restos que se encuentran en las primitivas cavernas nos informan por la abundancia de huesos de animales que, en estado salvaje, poblaban, entonces, llanos, valles y montañas que no dejan duda sobre el trabajo de los primeros pobladores de Lima.

En la Cordillera occidental marítima de los Andes figuran dos tipos de aukenias que fácilmente se domesticaron: el llama y la pacocha o alpaca; y otros dos tipos difíciles de domesticar: la vicuña y el huanaco. Entre los cérvidos en estado salvaje figuran los venados (*Cervus dama*) que abundan en la ceja de Costa que forma la region de las lomas, su tamaño es pequeño y piel fina; las tarugas (*Cervus antisensis*) que abundan en las serranías, son de regular tamaño, pelambre obscura y piel áspera.

La captura de la vicuña por el aprovechamiento de su lana para la confección de telas, así como la utilización del cuero del venado fueron las principales ocupaciones de las primeras tribus humanas cazadoras.

Las vicuñas al igual que las tarugas y venados caminan en tropas de 10 a 15 hembras y 1 macho que encabeza la comitiva, el cual sirve de vigía a sus compañeras y, subiendo a las alturas o morros, advierte si hay o no peligro, siendo, si lo hubiera, un gran silbido la señal de anuncio: en este caso, las hembras disparan como un celaje hasta sus guaridas o escondrijos. La ceremonia totémica del chaco, al igual que la ceremonia mágica de la *intichiuma* de los australianos, tenía como fin primordial la sociabilización de toda la tribu y la mancomunidad de intereses, la provisión de estos animales mediante un esfuerzo comunal, ya para domesticarlos, ya para matarlos a fin de utilizarse de la carne, del hueso, de la lana y del cuero y aún de la cornamenta. Emplearon para esta cacería unos grandes lazos de cuero de llama o de ágave que llevaban, cada uno, tres pequeños ramales que sostenían unas bolas de piedra, llamadas *riwi,* perforadas por el centro y con una ranura ecuatorial, o también, eran piedras brutas forradas con cuero y aditas al extremo de la soga; entonces, mediante movimientos ondulatorios se imprimía un gran impulso a la soga, la que arrollaba, furtemente, al cuadrúpedo por el cuello o por las extremidades, arrojándolo al suelo, donde se podía coger vivo al animal; lo mismo se podía aprisionar a las vicuñas y llamas salvajes, abriendo unas zanjas profundas en ciertos lugares estrechos que se tapaba artificiosamente con paja, luego se rodeaba por muchas personas al pequeño rebaño y se le arreaba por ese lugar estratégico, donde al pisar el suelo artificial de paja los rumiantes salvajes caian de bruces al fondo de la zanja, de la cual no podían salir y eran cogidas por el perseguidor. Unas veces estos cuadrúpedos, cuando eran tiernos, se les domesticaba, otras se les esquilaba la lana a las hembras y a un solo macho, dándoles libertitad en seguida para fomentar la reproducción; siendo los otros machos muertos para aprovecharse de su carne que era considerada como exquisita por los primitivos aborígenes. Este procedimiento de poder caza a las vicuñas y, aún, a los pájaros, se denominaba en aimará con el vocablo *cantaka*; los mismos métodos que se usaba para cazar al león o puma de los Andes, así como eran las fosas que hacían los Indochinos para cazar al tigre real. Se ayudaron los cazadores en su empresa de unos instrumentos llamados jabalinas alanzonos de madera de *lloqui o huarumo.*

En el uso de la mano como instrumento de defensa está lo manifestación do un importante progreso psíquico. La prehensión de las extremidades superiores, con dedo pulgar oponible y de uñas planas, dan el cazador aptitudes para los oficios más variados y en las circunstancias más diversas, haciendo que un tronco de árbol, una rama de madera muy dura, puestas en sus manos se haga una arma contundente; así, el mazo, la hualcana, le humachina el la huanaca; instrumentes estes artificiales que les emplean para la defensa y el ataque, para la multiplicación de las utilidades y mejoramiente de la vida. La tensión de una rama plegada por analogía con el brazo que lanza la piedra, llegé a imaginar la construcción del arco y de la honda en el cazador que, espontáneamente, fué provéyendóse de estas armas para sus activadades más comunes. El *riwi, o ayllu* (voleadera), el *cachso* o *allana* (pica de madera), la *huaraca* (honda de lana), fueron los instrumentos de caza de los primitivos hombres: le mismo, servían para abatir los animales salvajes y para defenderse del hombre en las grandes guerras. Un gran progreso tenían los instrumentos propulsores, como: el arco y la honda, cuyos proyectiles, la flecha y los contos, rodados, alcanzaban grandes distancias. El hombre podía, entonces, luchar contra el puma y el jaguar que, abandonando sus guaridas, iban a merodear por los alrededores de las cabañas; y, aún, de los *pucutos* domésticos, cuando eran sorprendidos por la zorra, la *muca,* la *huayhuash,* el añas para hacer presa a los cuís domesticados.

Para el consumo cotidiano el hombre se servía de la caza de *viscacha* (conejo salvaje) semejante al conejo Indias, que abundan en los lugares pedregosos, así como la cacería de los *urpi, llipe* (palomas comunes y torcazas), de la *huallpa* (gallineta salvaje de los Andes) y de algunas aves acuáticas, como, el *pitti* (patillo) y la hermosa como agradable *huáchua* (ganso silvestre), las *parionas* y *corcobados,* semejante a los flamencos y gallipavos, que tanto abundan en las lagunas de la Cordillera, en los lugares pantanosos u *hoconales* de las punas y en los vallecitos andinos de donde nacen los ríos, de la Costa.

En las cuevas sepulcrales se encuentran grandes montones de huesos rotos de animales, restos de comidas que los hombres de aquella época remota usaban en su alimentación y, al no haberse tomado la molestia de arrojarlos de sus viviendas, nos dicen claramente sobre la lista de los animales salvajes y materias de que se servían en su sustento. La cacería del cóndor o buitre ye el empleo del falcón e gavilán para la caza de pájaros pequeños se debía al aprovechamiento de las plumas y del charqui o carne seca y a la defensa de los rebaños de llamas, lo mismo que para espantar a los papagayos *calcechos,* les *chivilles,* les *huanchacos,* que devoraban el maíz de las tiernas mazorcas.

La Pesca. El hombre de los Andes y el llanuro de la Costa no solamente perseguían la caza, sino que se dedicaban a la pesca. En las frías mesetas andinas se entretenían los pastores, como ahora mismo, pescando *challhuas* (pequeñas sardinas) que abundan en casi todas las lagunas, y una especie de yuyo acustre, llamado *cushuro,* cuando es hojoso, y *hullullupa,* cuando es globular: su color es oscure y de consistencia gelatinosa que, secadas al sol, constituían unos de sus principales alimentos y más agradables cuando se les acompañaba con la papa *shire* y la *mashgua,* con la *cancha* y la machaca (maiz tostado y molido). El intercambio comercial de la *challhua* y del *cushuro* por los pastores andinos con la *anchoveta* y demás *pescados secos* por los pescadores costeños duró hasta el fin de la época pre-colombina.

Les métodos de pesca en las lagunas .consístian: echar al agua las palmas de las dos manos juntas; unas cañas puntiagudas que servían de arpones o anzuelos contrapesados con microlitos, más o menos, tallados; unos embudos de caña en la desviación de los ríos, llamados por tal razón, *encañadas,* servían para la pesca de camarones: este molusco, así, como el pejerrey, constituía la mejor industria fluvial.

En los valles de la Costa la industria pesquera, principalmente en Chancay, Ancón, Callao, y Cerro Azul, era considerable. Los métodes en la pesca estaban perfeccionados tanto, y tal vez más, que el resto del globo. Siendo, pues, la pesca el principal recurso para la vida de los habitantes de la Costa, los *yungas* de raza aimaro-mochica se servían de canoas o caballitos de totora o matara y de grandes *pirahuas* que conducían a los pescadores a los lugares propicios para la pesca, ayudados de grandes redes o chinchorros que se sostenían por fragmentos de madera porosa, de médula de saúco o de maguey y una especie de corcho en forma de rodela o disco perforado, llamados *choros,* que en número de varios hacían las veces de flotadores, cuando se practicaba la pesca denominada cala. Las redes primitivas fueron de *cabuya* (*Ágave americano*), cuya pita o filamentos se plegaban y se enroscaban al pulgar más que al meñique, según estilo plectomorfo; otras veces se hacían redes de filamentos de totora o de una especie de junco, así como de *charo,* anudándolos por secciones.

Los *kjoekkenmoddings* de Ancón, Supe, Carquin, Chancay, Vellavista y Lurín, Chila y Pucusana, lo prueban por los restos de cocina con residues de pescado, gran cantidad de mariscos, almejas, cangrejos, péctenes que se encuentran conglomerados junto a las rocas de las riberas, formando gruesas capas de conchal.

La Ganadería, La domesticación del llama. Después de la época del chaco total la reducción del llama se verificaba, encerrándolo por algún tiempo en los valladoros amurallados, dentro de los palenques con grandes *pepercas* que cercan las pequeñas cabañas. Desde una época avanzada el hombre andino hizo de este camélido el auxiliar de su vida y las reservas de su alimentación. Después, el aumento de grandes rebaños pacíficos que pasían sobre las praderas, los riscos y mesetas de los Andes, así como en las florestas, valles y llanuras costeñas, obligó a los moradores a crear una industria y comercio de intercambio de carnes charqui y de lana para el tejido. Las vicuñas eran cogidas, tanto las hembras como los machos, se les esquilaba la lana y luego se les soltaba, siendo muertas, únicamente, aquellas vicuñas que el Curaca o Jefe de tribu designaba, que generalmente eran las vicuñas machos. También, la tradición asegura que se llegó a domesticar al venado hembra para aprovechar de su leche por ser nutritiva y medicinal, semejante a la leche de llama.

El pasto adecuado para estas aukenias se extendían por las verdes y ubérrimas mayas de la Sierra y por las lomas de la Costa. Las yerbas de las mayas crecían a uno y dos metros de altura, principalmente, los *yuyos* a mestiza que su tallo seca *shogra* servía como combustible, la *acusha,* la *gauchilla,* el *pinao* que es una especie de girasol y gusta mucho a los animales.

Las mejores ''lomas'' de la costa del Departamento de Lima fueron las de Lachay y las de Jicamarca.

La Agricultura. La aparición del fuego, cuyo origen debió tener la misma historia que en la época paleolítica, utilizá la leña y la madera de las florestas, así, como material importante de construcción, especialmente en la Costa. Para las construcciones urbanas y rurales sirvieron algunas maderas de vegetación arbórea, tales como, el *quinuar,* el *chachas,* el *pate,* el *carampa,* el *quishuar,* el arrayán, en la región andina; y el *molle,* el *huarango,* el sauce y la tara en la región costeña. Los juncos la totora, el carrizo, la *matara,* la *caña brava* y la *shacuara,* que crecen en las orillas de los ríos y en los lugares pantanosos, fueron el material primitivo y más desarrollado que se conoció para la construcción de cabañas en los valles de la Costa.

La leña para el combustible se encontraba en los matorrales, en las florestas y laderas llenas de unos arbustos que, hasta ahora, se les conoce con los nombres de *huarume,* de *yanacasha,* de *taulish,* taya, el *picho,* y otras yerbas resinosas llamadas, *yareta, tola,* otras sarmentosas como el *cappo* de las punas, así como la grama andina mezclada con tierra fina llamada *champa,* y unos espinos que sirven de acercas naturales *guiguerín,* el maguey y sus hojas secas denominadas champacara de donde se obtiene las hebras e filamentos para torcer la *cabuya* o *sogas de ágave* y la pita. Servían éstos, como base del proceso de alimentación, por so finalidad combustible, para asar la carne cruda, el charqui o el canqui, tostar el maíz, la *cancha,* asar la papa, *tushia,* la yuca y el camote.

Los árboles frutales de la Costa erán: el chirimoyo, el palto, el *lúcumo,* el *pacao,* el mango, el *huayu* o plátano americano. La alimentación frutívera perfeccionó el gusto culinario de los primeros pobladores de la región de Lima.

En la región andina el proceso sociológico le constituía el cultivo de la papa, entrando de lleno, las tribus nómadas que vivían de la caza y de la pesca, de la recolección de frutos y raíces silvestres, en una nueva faz de civilización: el período sedentario. En la zona andina, que podríamos llamarla la region de la papa, se propició, cuando el hombre no abandonaba, todavía, la caverna, el desarrollo de una constante y laboriosa agricultura. Es en la Sierra, propiamente dicha, tanto en los lugares fríos como en las quebradas templadas, donde crece la papa, la *oca,* el *olloco,* el aji rocoto y la coca completamente silvestre, de sabor amargo, irritante al paladar, pero de excelente incentivo para abrir el apetito y saciar la sed en los grandes calores y faenas cotidianas; estos arbustillos crecen en las praderas como unos verdaderos jardines que se cubren de flores blancas, amarillas, meradas, rojas y matizadas. Todos tienen raíces jugosas que mitigan la sed y, secas al calor del sol, dan una fécula que constituye un nutritivo alimente. El *llacon* y la *gauchilla* tienen raíces tuberosas y delicadas de sabor dulce que los indígenas las comen al natural.

La papa dulce y la amarga *shire* (excelente para preparar el *chuñe*), la *oca* dulce y la amarga *mashgua* (que secas dan la *macha* y el *cahue*) y el *olloce,* entraron al dominio del cultivo cuando la experiencia descubrió que sembrándolas en la tierra húmeda removida y, después, irrigándolas con agua, su producto era mayor; entonces, inventaron preparar *andenes* en las pendientes de los cerros, a manera de plataformas, llamados *pallac* e *patería,* que no son otra cosa que *chácara* pequeñas donde remojaban el suelo con agua llevada por canales e acueductos, removían la tierra con unos palos terminados en punta y, luego, enterraban allí el tubérculo o *mamalla* que servía de semilla reproductora. Esto se hacía antes a la influencia cultural de las tribus harahuac.

De esta observación natural de las necesidades humanas nacio el *sembrió,* el *riego* y la *cushpa,* la *cosecha* y la *ruma* recolección. Para cuyos usos tuvo que inventarse los medios auxiliares de trabajo, tales como: la *taclla* o arado que servía para remover la tierra, arar, la *allana* sembrador con que se abría el suelo para enterrar la semilla, la *racuana* mancera en ángulo terminado en punta para cultivar, el *casho* palanqueta en punta que servía para cosechar. Estos instrumentos todos eran construídos de un palo muy duro.

El hombre primitivo andino, de esto modo, bosquejó la industria de la Agricultura, la que, pasados los tiempos, llegó a un alto grado de desarrollo en la era arcaica. Distinguiéndose, entre los cultivos, el de la papa que se diferenciaba en: *shire, cócheca* y maguey; la primera y la segunda se cultivaban en la época de las lluvias solamente y, la tercera, en los meses de sequía con las aguas de los ríos, represas, manantiales *hoconales.* El desarrollo de esta clase de papa, en su cultivo, es de 6 meses; habiende otra clase de papa que solo dura 3 meses, se llama *chaucha*. Todas éllas son comestibles: la *shire* se la utiliza, solamente, en *chuño* que consiste en tender las papas en lugar pantanoso toda una noche de recia helada, echarlas en unos pozos con agua *kuris* por espacio do 8 días después de pisar las papas escurrir el agua que resulta por el deshidratamiente *pisar el chuño,* quitar las cascaras y volver a echar las pulpas e fécula carnosa al agua corriente para lavarlas, secarlas al sol y queda el *chuño,* pasta sólida, que molido, da una harina suave y nutritiva; la *cócheca,* la maguey y la *chaucha* se las come al natural, sancochadas. Los indígenas primordiales hacían consistir su principal alimento en la "papa sancochada con ají e charqui de llama."

El mismo proceso de cultivo tienen el *olloco* y la *eca* con la *mashgua* de las cuales últimas se prepara la *macha* y el *cahue,* helándolas en las noches de verano, pisonándolas y secánandolas al sol por muchos días; dan una pasta sólida y dulce, que constituyen un buen alimento.

La Minería. La cadena occidental de los Andes formada por areniscas, pizarrones, calizas de la formación jurásica y cretácea, acumuladas con rocas porfíricas, dioríticas, abunda en minerales; tales como: el oro, la plata, el cobre, con los que, propiamente hablando, forma la gran región mineral del Perú en el sector del macizo del Cerro de Pasco y sus flancos occidentales como: Oyón, Cajatambo (en la Provincia de Cajatambo), Vichaycocha, Pacaraos y Culluhuay (en la de Canta), Casapalca y Viso (en la de Huarochirí) y Yauyos, cuyas condiciones de explotación comenzaron desde la más remota antigüedad con métodos primitivos y por demás rudimentarios.

ARQUELOGIA PRE-HISTORICA

LA ARQUITECTURA

El material empleado en la construcción de las habitaciones pre-colombinas del Departamento de Lima, en su región andina, fué de piedra; y en la región costeña, fué de barro.

Dispersión de la arquitectura andina.—Comenzando de N. a S. las habitaciones de piedra del tipo andino se hallan situadas en las provincias siguientes: Cajatambo, Sierra de Chancay, Canta, Huarochirí y Yauyos.

Dispersión de la arquitectura costeña—En el mismo orden, las habitaciones de barro de los valles de la Costa y litoral marítimo se hallan situadas en la siguientes provincias: Costa de Chancay, Lima y Cañete.

Tipos de Arquitectura. La arquitectura de la region andina, así como la de la región costeña, pueden agruparse dentro de los siguientes tipos:—

1. Arquitectura civil
2. Arquitectura funeraria
3. Arquitectura religiosa
4. Arquitectura militar

Evolución de la Arquitectura y Cronología. Los monumentos arquitectónicos de la región andina-costeña del Departamento de Lima se pueden estudiar según el siguiente orden:—

I. Arquitectura andina:
   a. *Chaucalla,* habitación troglodítica
   b. *Kullpi,* habitación-tumba en forma de túmulo. Sus variedades.

II. Arquitectura costeña:
  a. Arquitectura, habitación ribereña o cabaña
  b. Arquitectura, habitación piramidal, de la Costa propiamente dicha
  c. Arquitectura, habitación paralelepipeda de la ceja de Costa.

Arquitectura Andina:—a. *Chaucalla—habitación troglodítica.* En la región de la vertiente occidental de la Cordillera de los Andes que comprende las provincias de Cajatambo, Canta, Huarochirí y Yauyos del Departamento de Lima, así como en la región oriental de la misma Cordillera Occidental, en las vertientes que divisa el río Mantaro del Departamento de Junín, se descubrieron cuevas y grutas naturales, arregladas artificialmente para viviendas humanas, muy seme-

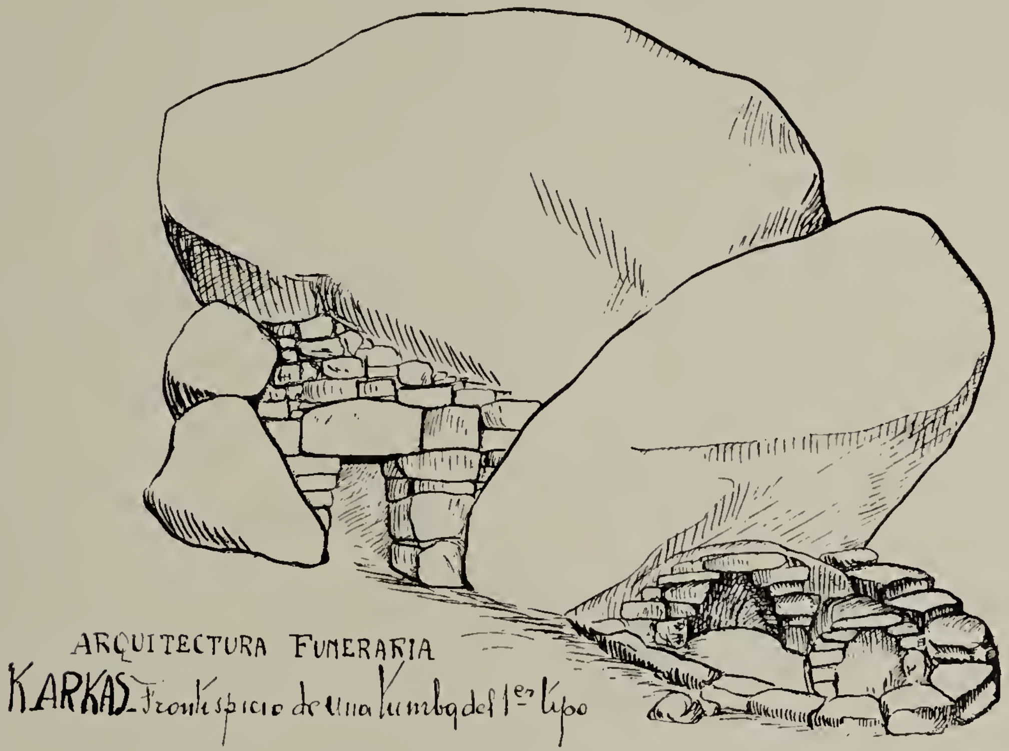

ARQUITECTURA FUNERARIA
KARKAS-Frontispicio de una tumba del 1er tipo

FIG. 1

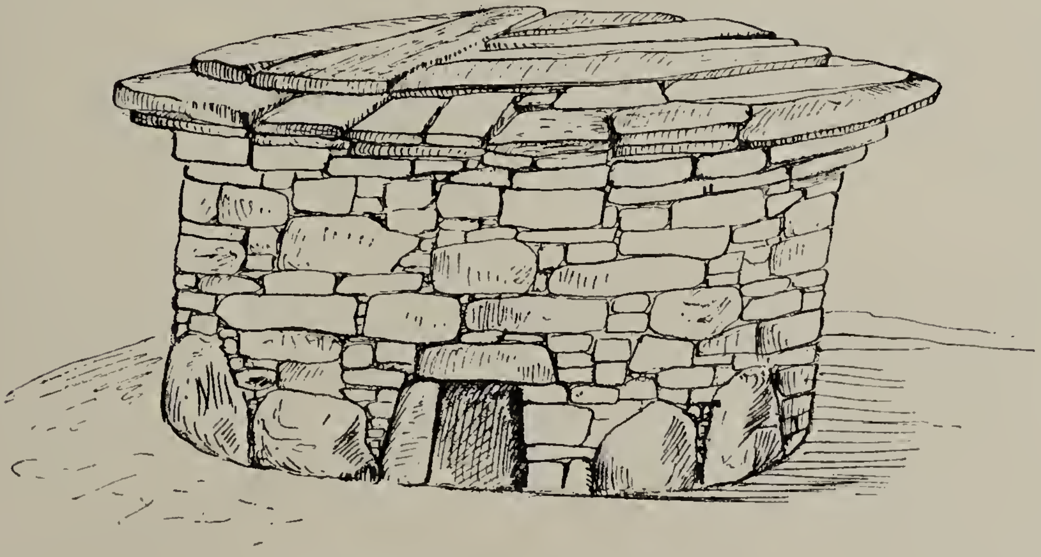

ARQUITECTURA CIVIL
Frontispicio de una Habitacion del 1º tipo - CHULLPAS del Chillón.

FIG. 2

jantes, por su finalidad doméstica, a los *cliff-dwellers* y a los *mound-builders* de Norte América. Los naturales del Departamento de Lima nombran a estos monumentos incunables con los vocablos aimaras, *Chaucalla* y *Aco-machay,* que significan: Caverna sepulcral y Caverna del Hombre; de las veces *aco* hombre y *machay* caverna.

Nos inclinamos a pensar en la verdadera existencia de poblaciones trogloditicas en esta región andina, por haber encontrado vestigios que aportan informaciones precisas respecto a la edad del hombre primordial en esto departamento y, porque, se veneró, posteriormente, estos lugares como *paccarinas* o lugares de origen y se les tributó los honores de un santuario y adoratorio, considerándolos como cavernas sagradas; realizándoso en sus vastas concavidados el sacrificio humano: *la mancuña*; el culto de los muertos y el rito de los antepasados: *el pagare.* Efectivamente, dos fueron los principios reinantes en el espíritu humano durante la época en que los primeros pobladores de la Cordillera andina del Departamento de Lima usaban las cavernas para cobijarse: el respeto a los muertos y el totemismo; y como consecuencia de ello, la idea de la supervivencia y la aplicación sobre sí de los acontecimientos de la vida, como las tribus salvajes de la región florestal del Perú.

En la mayor parte de las cuevas se ha encontrado el cadáver, rodeado de los utensilios que lo eran familiares, cerca del hogar, enterrado. Aquí se basa el principio de las habitaciones-tumbas que continuán a través de los diferentes períodos de civilización; cumpliendo un fin cuádruple: civil, funerario, religioso y militar; como cuna y vivienda, como cementerio y santuario, como defensa ante los rigores de los agentes naturales y trinchera ante la embestida de los animales carniceros y enemigos humanos; siguiendo las leyes biológicas de la adaptación al medio y conservación de la especie: "lucha por la vida." Esta costumbre de enterrar a los muertos o cadáveres bajo el plano inferior o en las concavidades laterales de las viviendas humanas perduró hasta el fin período pre-colombino y adquirió mayor auge en la época que se edificaron los *Kullpis* o túmulos de piedra.

Quizá, la idea de la momificación obedeció al principio de la conservación de la salud para impedir que los cuerpos putrefactos contaminaran la vida humana y que, por totemismo, les hacía participantes del mismo espíritu y de las virtudes de los antepasados, cuyo *mana* hereditario, cuya *huaca* fuerza misteriosa, cuya *hacina,* infundían valor y cariño, amor y respeto entre la comunidad humana dependiente del gran espíritu *manitu,* esa divinidad terrible de donde nace la vida y se regulariza la muerte, llamada *Wa-Ken* en la Provincia de Canta.

Las Habitaciones Troglodíticas de Huayhuay. En el despliegue oriental de la Cordillera de los Andes que se dirije por la cabecera del Departamento de Lima, en un terreno geológico perteneciente al cuaternario-plioceno y heloceno, se encuentran situadas las habitaciones troglodíticas de *Yuracpuquio* y de *Huachac,* en la jurisdicción del pueblo de Huayhuay. La población moderna de Huayhuay se halla rodeada de dos altas murallas rocosas naturales que dejan en su fondo una pintoresca sábana angosta recubierta por el ichu (paja alimenticia) y el piguy (paja de construcción) que siguiendo su prolongación se llega a un callejón natural formado por dos enormes cortes verticales que la acción constante del rió Huari fué secavando al recorrer de los siglos sobre la certeza dura del Planeta. Es así, como se formaron esos dos contrafuertes fronterizos como dos columnas gigantescas denominadas Yuracpuquio y Huachac que, maravillosamente, ocultan en sus entrañas las cavernas troglodíticas.

El 18 de setiembre de 1927 el Inspector de Enseñanza, Señor Severino Villar Ruitón, fué el primero en descubrir y reconocer la importancia arqueológica de estas cavernas cuando, de paso por eses lugares, practicaba sus visitas escolares en la provincia de Yauli, logrando penetrar con ciertas precauciones a esas inaccesibles viviendas primitivas. ¡Ciertamente, impresionante le fué al visitante cuando, acompañado de las autoridades del distrito de Chacapalpa, escaló la pendiente para llegar a entrada principal del soberbio monumento pre-histórico de Yuracpuquio!

''Cuenta la leyenda que, anteriormente, los naturales de aquella región no se atrevían a penetrar a ese lugar temible por la obscuridad que allí reina, por los gases deletéreos, por la humedad y filtraciones de agua. En cierta ocasión, dos hombres valorosos, Alejandro Alvarez y Julio Zacarías, dominados por la codicia de encontrar tesoros, allí escondidos—según contaban los abuelos—se aventuraron a penetrarlo, permaneciendo dentro del laborinto, todo un día, perdidos completamento; por fin, lograron salir tan impresionados que, uno de éllos, al poco tiempo, falleció a causa de una enfermedad nerviosa adquirida.'' Aquí se confirmó la creencia general del vulgo pre-indígeno cuando dice: ''les gentiles agarran al osado que se atreva profanar la Huaca sagrada. . . .''

Continuando nuestra observación: El cerro de Yuracpuquio se presente imponente como cortado a bisel verticalmente, formando una decoración natural en su cara exterior semejante a un conjunto arquitectónico caprichoso de arte gótico medieval: una enorme cortina lítica lucubre por fuera, cuya parte superior ostenta un maravilloso decelago de ángulos agudos alternos vaciados a manera de un bajo relievo artificial. A lo largo de su parte céntrica se nota, horizontalmente, unas ventanillas con pequeñas plataformas exteriores, a manera de antepechos, construidos artificialmente; pero, inaccesibles por fuera. Solo una, y es la más grande, se deja escalar y sirve de entrada general al monumento incunable. Lo primero que se encuentra al ascender la pendiente es una plataforma a manera de un patio pequeño, levantado desde su base con piedras primerosamente colocadas: en seguida viene el gran Pórtico un tanto arqueado naturalmente, formado por grandes bloques graníticos y una especie de empedrado natural en el suelo. A partir del Pórtico, se abre un gran socavón de 3 metros de ancho por 3.50 metros de alto, más o menos, y 12 metros de profundidad: en la parte media del socavón se levantan dos enormes estalagmitas cónicas, a manera de columnas, de tres metros de alto, siendo la base de un metro de diámetro y el vértico de medio metro: su constitución lítica es cuarzosa blanquecina. Esta galería que conduce a varias cámaras internas, semeja un gigantesco hipogeo, cerrado por algunas trincheras artificiales que dificultan el paso, por lo que, al partir de la estalagmita del fondo, la galería tuerce a la derecha, a manera de un largo corredor, y se bifurca en lo más recóndito de la cueva en otras galerías desconocidas que todavía no hemos podido visitar y que, probablemente, tienen relación con cuatro ventanas que se divisan sobre la fachada de la caverna. Estas ventanas solo son accesibles por el interior de las viviendas, su forma es abovedada con su barbacana exterior, sin duda para recibir por allí los rayos solares, luz y ventilación; corresponden a las galerías que están separadas por unos solidezos groseros y bloques enormes de piedra a manera de trincheras que resguardan el fondo de acceso. Es digno de mencionarse, que por una de las ventanas se nota una erección acanalada sobre la roca vertical labrada por el agua que por allí caía, saliendo del fondo de la caverna durante cuantos siglos ha.

El cerro de Yuracpuquio sirve de base a una gran plataforma geológica donde existe una laguna Yuracocha sin desagüe exterior. Sin duda alguna, las filtraciones de ésta fueron formando a través de los siglos una gruta subterránea de estalactitas y estalagmitas, perforando las entrañas del cerro a manera del río subterraneo y que corría paralelamente al río Huari, echando sus aguas sobre él, para ser llevadas de No. a Se. sobre el manso y caudaloso Mantaro (río que se dirijo a las Montañas Peruanas). Más tarde, al correr los tiempos, esa corriente líquida subterránea cambió de ruta para dejar un alvéolo casi seco; mientras la acción constante del río Huari iba cortando la costra terráquea, verticalmente, dejando un álveo profundo y ancho lleno de una tierra de detritus, de margas, de rocas exógenas, de travertinos, pizarras y otras calizas, fáciles de laborar.

Fué, entonces, que el hombre salvaje encontró, allí, en esa hondonada y gruta propicias que la sabia Naturaleza se las formó, un lugar adecuado a sus necesidados instintivas para ponerse a salvo de las inclemencias de la atmósfera y del tiempo, así como para defenderse de las acometidas de las fieras y de otros enemigos humanos.

Las tradiciones más remotas refieron que:—

> ''Unos hombres corpulentos y de talla agigantada, acompañados de sus mujeres e hijos, salían todos desundos, a la hora de la salida del sol, de los interiores de la caverna hacia las ventanitas y portada principal y, colocándose de cuclillas en los empedrados de los dinteles o antepechos fronterizos, recibían el calor del Sol; y que, para guarecerse de nuevo, llevaban las dos palmas de las manos juntas a la altura de la boca; como una demostración de su agradecimiento a la Divinidad per sus dádivas por éllos recibidas.'' . . . Más tarde, los descendientos de aquella raza gigante y primitiva bajaron al llano inferior de las cavernas y fundaron, a la orilla izquierda del río Huari, el pequeño pueblecito de Turriuc compuesto de unas pocas casitas de piedra, a manera de un Santuario de cinco túmulos o 'kullpis' en torno de una plazuela circular se levanta en el centro una terrecilla de forma cónica, con ventanas laterales que manifiestan tres pisos y con 5 metros de elevación.''

Efectivamente, los restos humanos y los fragmentos de cerámica encontrados en la profundidad de la caverna, confirman el tamaño, los usos y costumbres de aquellos remotos moradores de la pétrea vivienda. Los cráneos mesaticéfalos, los fémures, húmeros y omoplatos tienen un grosor, tamaño, anchura y volumen mayor que los del esqueleto humano actual. Las huellas de los hogares, les restos de cocina, las cenizas, los huesos de animales silvestres encontrados, así como los fragmentos de cerámica gruesa rojiza sin pulimento en su mayor parte, y otra alfarería esmaltada de rojo, pulida y de pasta más fina debido a la arcilla finísima y otras materias minerales colorantes que se descubre en las orillas de las lagunas de la Cordillera, ponen de manifiesta el uso del fuego y la industria de un período muy superior al paleolítico y que, por lo tanto, entra de lleno en el estile de los pueblos que poblaron todo este sector arqueológico.

Los restos Arqueológicos de Huachac. Las cavernas de Huachac se esconden en el cerro fronterizo de la margen derecha del río Huari. La toponimia de

Huachac se deriva del vocablo quiche-aimará que significa: nacer. Esta designación tiene relación directa con el origen humano y con el lugar de precedencia con los primeros clanes que poblaron esta Cordillera: los aborígenes y los troncos familiaris de la primitiva agrupación humana de la civilización arcaica del Perú.

Un corte vertical del cerro debido a las erosiones del mismo río Huari descubre unas rocas planas a manera de un libro y de unos doseles de roca exógena. Una serie de nueve pórticos, abiertos artificialmente, con dinteles y jambas amuralladas que parecen unos dólmenes con piedras o lozas horizontales descanzan sobre muros laterales; un piso empedrado y un solo sendero tallado sobre el mismo peñón comunica las ventanas por la parte exterior de la caverna; diciéndonos todo esto los propósitos de vivienda y de fortificación que tuvieron los primitivos moradores de Huachac. La perforación artificial de estas puertecitas, a manera de boca-minas debieron llevarse a cabo con instrumentos paleolíticos contundentes que fácilmente labraron las rocas exógenas. Las galerías interiores están completamente obscuras. Las aguas filtran por las oquedades y es un conjunto de estalactitas y estalagmitas tan encantador que imposibilita el paso de aquel laberinto, donde no se sabe que admirar; o la belleza de la gruta, o la obra del hombre que supo elegir refugio y abrigo tan poeticos.

Cavernas de "Wa-Kon-pa-huín." La misma Cordillera de la Viuda posee otras tantas cavernas troglodíticas ocultas en los pliegues orientales que se dirigen del mar, donde se han descubierto algunos ejemplares paleontológicos de megaterios de la era cuaternaria; cuyas primitivas habitaciones humanas fueron consagradas, posteriormente, por los pobladores de los *kullpis* como adoratorios y santuarios, considerándolos como sus *pacarinas* o "lugares de origen." Entre éllas se admira la caverna sagrada de *Wa-Kon-pa-huín* a 4,605 metros sobre el nivel del mar y escudada por las nieves perpetuas que la envuelven como un blanco sudario. Sobre la base del cerro Reponge, una de las crestas occidentales andinas, se abre la boca de la caverna por una puerta rocosa de falsa bóveda, la cual presenta por delante una plataforma arreglada artificialmente y en la que se levanta un *kullpi* a manera de adoratorio.

En las inmediaciones de la caverna se encuentran tres piedras grandes verticales, a manera de columnas, a las orillas de las lagunas de Pumaquihuay, Riguacocha y Chuchún-cocha que circundan el cerro: son tres obeliscos arcaicos que reciben el nombre de las Piedras de la Viuda o Piedras de la Vieja. La tradición cuenta que "alrededor de esos tres ídolos se congregaban los moradores de esa región a depositar sus ofrendas rituales o totémicas; cuyo Folklore religioso de la Viuda conserva unas leyendas conocidas con el nombre de Los Willcas y El *Wa-Kon* rememoradas por los naturales de Culluhuay en reverencia de la Pacha-Mama (la Tierra) suprema divinidad femenina que preside el culto de la Naturaleza.

La Caverna de Cahuara en el Cerro de Lucana. La Caverna de Cahuara se halla hacia la cima del cerro de Lucana del pueblo de Viscas, consiste en tres grandes monolitos verticales que dan origen a la entrada de una cavidad profunda, donde se encuentra el ídolo y el mortero que recibe la sangre propiciatoria del llama que hurtan, generalmente, los de Lachaqui para sus ritos sagrados.

Las Cavernas de Pichsta-machay, Kakán, de Kuri y Cóndor-Huachani en la region del alto Chillón; llaman la atención, también, las cavernas de Cancallamachay, de Mango, Acacay, donde vivía, según la leyenda, Aracrayca madre del dios Kon, la de Jilcancachán, morada del dios *Wa-Kon* en cuya cercanía se halla el templo de Willca-Tampu dedicado al culto del Sol, en la provincia de Canta. Las cavernas de Laksa, de Keway, Waksa-kaka, Wampu y Macancho en las vertientes de la Provincia de Huarochirí. Y otras tantas que se hallan en las provincias de Yauyos y Cajatambo, como las de Huayhuash y Carpacunca, revelan claramente que en tiempos remotos sirvieron de morada de la especie humana en las primeras edades. Muchas de éllas presentan la misma configuración y consistencia de las cavernas de Yuracpuquio; otras son simples socavones labrados y arreglados por manos trogloditas, pero siempre en las vecindades de los ríos y lagunas. La existencia de aquellos moradores primitivos en esos laberintos reccsos nos lo dicen las tradiciones y leyendas de cada región, cada cual la más sugestiva y emocionante; confirmando esas versiones míticas el hallazgo que se ha hecho en aquéllos de restos humanos, de fragmentos cerámicos, de resagos de alimentos indígenas y huellas de hogar o cocina.

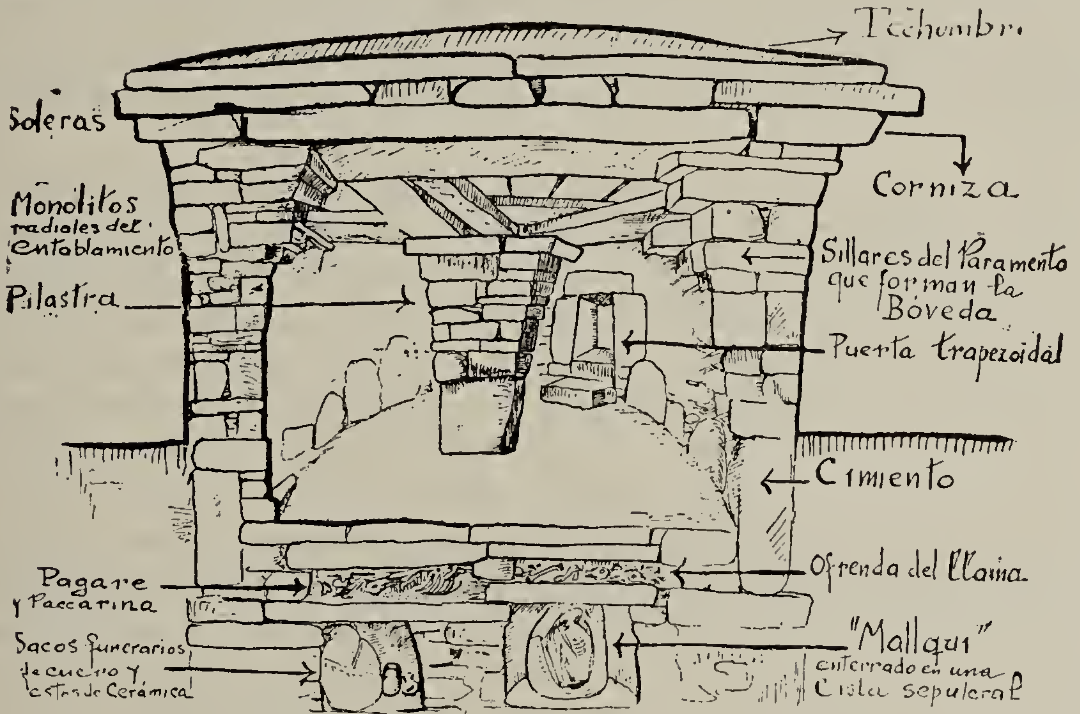
Kullpi, habitacion-tumba en forma de tumulo. En toda la región de la Sierra del Departamento de Lima, en sus faldas y agrestes pendientes, se admira otro tipo de construcciones para vivienda humana que revela un grado de intuición artística por la forma y variedad que revisten, tanto en su paramento exterior como en su estructura interna. Aquí el hombre, presionado por sus múltiples necesidades naturales, tendencias instintivas de sociabilidad, inspiraciones secretas de aquella Fuerza Suprema de la vida, se siente movido a salir do su guarida tosca, fría, húmeda y oscura en busca de un refugio mejor, donde podría recibir con más facilidad los beneficios que la Divinidad le supo deparar. Entonces, comunicándose unas familias con otras fundan pequeñas poblaciones en las colinas de los cerros o vertientes de las quebradas, poniéndose, siempre, a salvo de las inundaciones de las lluvias y de las invaciones de tribus enemigas. Se construyen pequeñas habitaciones al aire libre, capaz de contener a los miembres de la familia solamente, pero con el sentir totémico imperturbable de guardar en su mismo lecho los restos de sus antepasados. Es así como se da origen antro tipo de habitación que sirva también de tumba, a la vez; llamándola, *Kullpi,* o habitación-tumba, por su doble objeto.

Sus Variedades. Se encuentran kullpis de forma circular, poligonal, cónica, cilíndrica y piramidal; presentando en su constitución la mayor simplicidad por la parte externa que parece ser toda de una sola piedra por lo imperceptible de la juntura de sus cantos yuxtapuestos; pero, complicada en su parte interna por sus diversos tonos de arquitectura. De aquí que podemos establecer dos variedades de *kullpi*: simple y compuesta.

1. *Kullpi Simple.* Las características de las habitaciones-tumbas de arquitectura rudimentaria son:—Grandes túmulos de forma cúbica y cilíndrica, dominando los cimientos circulares y las cúspides abovedadas que, a manera de torrecillas, se levantan desde una gran profundidad. El edificio arcaico, llamado *Kullpi* por los naturales de la gran faja serrana, se divide, por ser verdaderas habitaciones-tumbas, en dos secciones: a, Cámara superior habitable; b, Cámara inferior sepulcral.

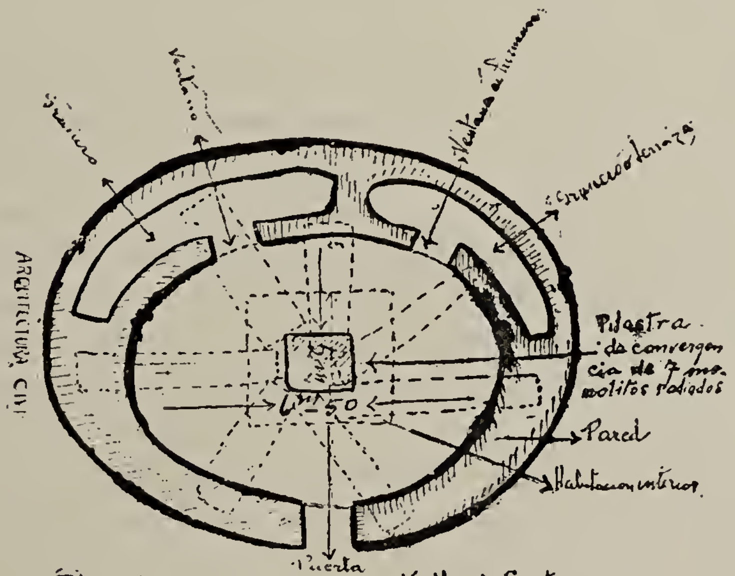
Empleando los términos de la arquitectura clásica tenemos: el paramento o pared que presenta piedras talladas por golpe o explosión, pero no pulidas, unidas irregularmente, según el estilo arquitectural pseudo-isodomón. Los cimientos constan de grandes piedras, sobre lo caules se levanta una muralla de piedras pequeñas unidas con barro arcilloso. (Véase el plano vertical. Fig. 3.)

a. Cámara Superior Habitable. Sobre las cámaras sepulcrales se construía un túmulo de proporciones regulares como para hacerlo habitable. La firmeza del edificio depende de la laboriosidad cómo se ha trabajado las pilastras o columnas rudimentarias que surgen del centro del plano circular inferior, respecto de la arquitectura de entablecimiento o corniza que cubre, como verdadera techumbre, los interiores del edificio y se proyecta del techo por la parte exterior.


Techumbre
Soleras
Corniza
Monolitos radiales del entablamiento
Sillares del Paramento que forman la Bóveda
Pilastra
Puerta trapezoidal
Cimiento
Ofrenda del Llaina
Pagare y Paccarina
"Mallqui" enterrado en una Cista sepulcral
Sacos funerarios de cuero y cestos de Cerámica

CORTE VERTICAL DE UN, "KULLPI". EN CATAMARCA

Fig. 3


Ventana
Proyección de la cornisa
ARQUITECTURA CIVIL
Pilastra de convergencia de 7 monolitos radiados
6m 50
Pared
Habitacion interior
Puerta

Plano horizontal de un Kullpi de Cantamarca

Fig. 4

Pilastras (Véase, Fig. 4). En el centro do un círculo de 4 a 6 metros de diámetro y a un distancia de 2.50 metros apróximadamente de la puerta, emerge una pilastra, a veces cilíndrica, pero generalmente cúbica o piramidal invertida.

La base de la pilastra consta de dos o tres bloques de que se engrana bien en las piedras planas y horizontales del piso. El fuste de la columna consta de piedras pequeñas unidas con barro y a veces con pequeñas hornacinas. El capitel arcaico de la pilastra es de grandes piedras horizontales superpuestas que se proyectan notablemente para sostener sobre un plano muy resistente, unas veces cinco lozas monolíticas, otras veces ocho piedras radíales que, a manera de un abanico o rosa náutica, se juntan en el centro de la pilastra y se abren para descanzar sobre las paredes del edificio que sostiene el peso del primer grupo de corniza por medio de reatas o piedras en forma de repizas donde se afianza toda la techumbre.

Bóveda (Véase, Fig. 3). Esta falsa bóveda es el resultado de la obra mecánica del edificio: nació espontáneamente. El artista no tuvo un fin decorativo al construir la falsa bóveda, porque la cúpula ha sido cargada en un espacio circular o planta ovalada, dada su facilidad para montarla sobre los grandes bloques enclavados sobre el suelo, a manera de *peulban,* aunque después no haya cerrado el vano por cortarlo la corniza. Esta bóveda rudimentaria con manifiesta tendencia a la arquitectura arquitrabada recuerda el estilo general de todos los túmulos arcaicos de la humanidad pre-histórica.

Puerta. Una sola puerta sirve de entrada: es pequeña, de 1 a 1.50 metros de alto. Está orientada, generalmente, en dirección E., ya para recibir los rayos del Sol de la mañana, ya para vigilar constantemente las sectores de las invasiones, ya para observar el camino o faenas cotidianas. Pudo tener un fin estratégico y económico: el carácter militar de la ciudad acusa un fin defensivo de la habitación. La defensa comienza con la buena conservación de la salud: los rigores del frío, los embovedados que calentaban la habitación, debieron obligar al hombre a construir estas puertas pequeñas y cerrarlas con troncos de leña o cueros endurecidos *gara-puertas.* El asalto y el robo frecuentes en los asedios de poblaciones, determinaron, también, a seguir una costumbre inmemorial, semejante a las grutas artificialmente arregladas, y de construir las puertas pequeñas donde se entra arrastrandose, no solo en las primitivas cavernas del primer período de civilización, sino en esta clase de habitaciones. El hombre que ha sido bloqueado y tiene la columna como trinchera, se defiende del que desea allanar el edificio, matándolo. A veces la puerta es trapezoidal: una piedra labrada e tallada sirve de umbral y las jambas tienen una leve inclinación. Algunas habitaciones tienen hornacinas que conducen a ciertas cavidades acanaladas o ventiladores destinados, más bien, como terrazas o graneros donde se guardaban los granos y semillas, dentro de *Illamancas* (grandes ollas de barro rojizo y de pasta gruesa). Véase el plano horizontal.)

Cocinas. Una cavidad en las paredes con restos cinerarios, restos de materias alimenticias y huesos de vizcachas, cuís y venados, demuestran las aficiones carnívoras de los primitivos pobladores; y una chimenea que establece el tiro de aire, sirviendo de ventilador a la habitación, demuestra el carácter doméstico de les *Kullpis* que, por su forma abovedada y porque estos especie de hornos calentaban la habitación, recibieron el nombre *chullpas* que quiere decir: bolsas o cavidades.

En las paredes hay algunos cuernos de venado que sirven de reatas para colgar talegas *ronkos,* trozos de carnes o vestidos. Las paredes llenas de mudo testimonio de la intensa actividad en el uso del fuego para la alimentación sana, higiénica y nutritiva que tenían los primitivos dueños de estas moradas. Cuando la lluvia y el frío de la Cordillera arreciaban, y las tempestades violentas impedían que estuvieran mucho tiempo en el campo, y durmieran el campo o en sus patios, como en las noches de luna, de las cosechas, del calor y del rastrojo, estas cocinas interiores del edificio servían de verdaderos calentadores; y allí mismo sentados en circulo dormían sobre les cadáveres de sus antepasados enterrados en la cámara inferior de la habitación, cuya paz religiosa no era perturbada con la profanación ni con el crimen, sino que se observaba los modos más respetuosos y filiales de la familia.

Fachada y Corniza. El aspecto exterior de los frontispicios es el de un gran cilindro o torre cónica invertida. Los sillares en su cara exterior han sido tallados y unidos con barro, siguiendo una regularidad geométrica que da al edificio un bello contorno. La corniza se compone de grandes piedras cortadas a golpe de maza: probablemente, de hachas paleolíticas o mazas de cobre. Estas lozas monolíticas de un piedra basáltica, muy común en las canteras interiores, se colocaron siguiendo, más o menos, este orden:

Primera serie inferior de piedras radiadas

Segunda serie media de lozas paralelamente unidas, a manera de *chakllas*; y

Tercera serie superior de lozas radiadas de contorno regular y talladas con proyección notable en la cima del edificio, a manera de techumbre, y rellenadas de barro y de piedras pequeñas.

La dimensión general del edificio es de 3 metros a 4 de altura. Cuando el plinto del edificio es ovalado, el largo es de 6 metros y el ancho, de 3.50 metros. Cada loza de la corniza tiene de 2 a 3 metros de largo por 0.50 a 0.70 centímetros de ancho.

b. Cámara Inferior Sepulcral. Las fosas con muros de piedras pequeñas cubiertas con grandes lozas sobre las cuales se construía el túmulo, contienen cadáveres de hombres rodeados de sus mujeres. Hasta cierto punto se puede creer, por el examen del mobiliario y ciertos indicios, la costumbre que tenían las mujeres de enterrarse junto a sus maridos, para acompanar a su Señor en la tumba: como lo hacia el cerrallo de los Incas y Kuracas—la *Capacocha*—y tenían por costumbre las japonesas, las mujeres de la India, las escitas de que habla Herodoto y las mujeres encontradas en el Talique ruso.

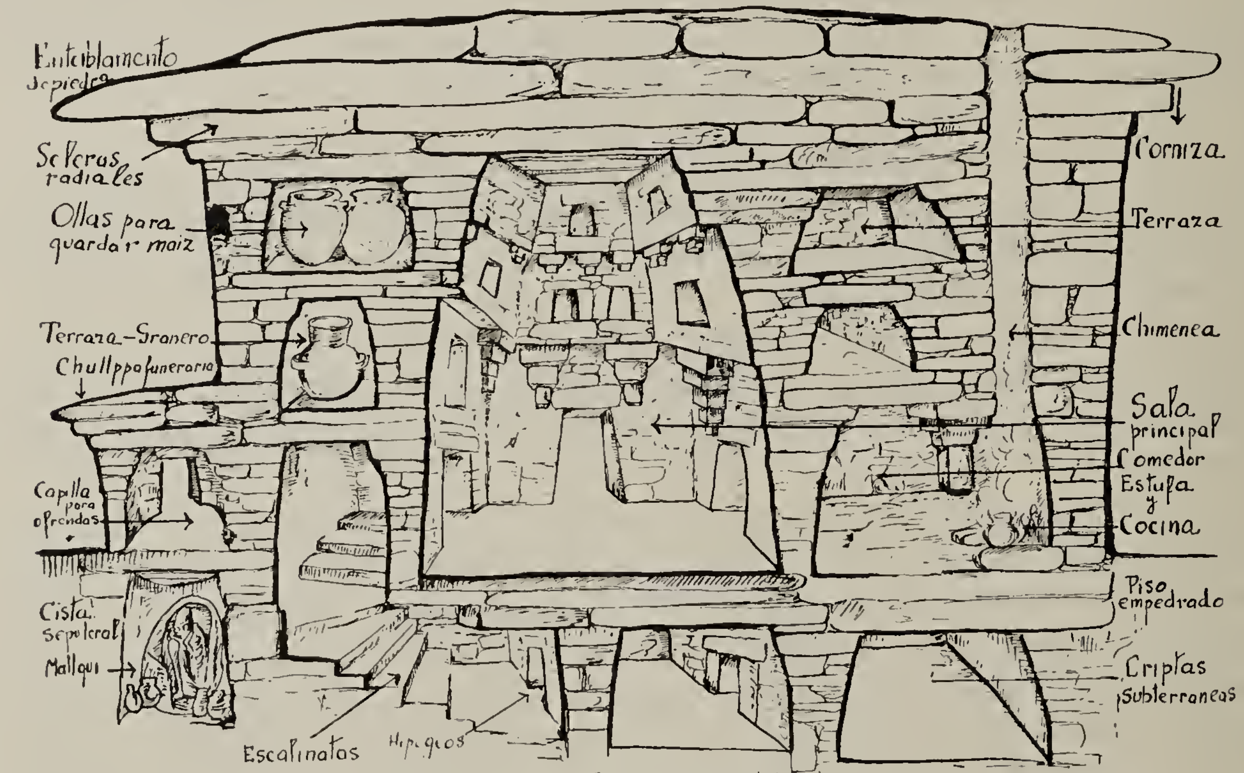
Los objetos de la cerámica y de la indumentaria tienen alguna influencia costeña. La alfarería importada por el intercambio de productos representa los estilos paleo-nazcas y paleo-chimús. La alfarería local corresponde al estrato superior de las cavernas funerarias en un época floreciente; porque predomina el arte netamente andino del cual se deriva el arte costeña. En cada Kullpi figuran de 2 a 4 cistas sepulcrales en la cámara inferior: pertenecen a los despojos de los primeros fundadores de la comarca y sus respectivas familias *clans,* troncos familiares *gens,* héroes culturales *Mallquis,* semi-dioses *Kuris,* progenitores, etc. (Véase el corte vertical del *Kullpi.*)

2. *Kullpi Compuesto.* Las Provincias de Cajatambo, sierra de Chancay y quebrada del alto Pasamayo de la Provincia de Canta se distinguen por su arquitectura pre-colombina mucha más perfecta, de mejor decoración y ornato, de una

elevación monumental más perfecta y de características constructivas arquitrabadas más completas. Aquí, la habitación aparece llena de solidez, majestad, elegancia y con mayores detalles de ornamentación arquitectural, de modo que puede considerarsele como a un florecimiento de civilización andina, precursora de las civilizaciones de Chavín y Tiahuanaco.

Las mejores construcciones de este tipo se encuentran en la gran metrópoli de Chipprak en los Atavillos de la región arqueológica de la Provincia de Canta. La forma general del edificio es la cúbica o cuadrangular; que mide por lo regular de 5 a 8 metros de alto por 4 a 6 metros de ancho y de 8 a 12 metros de largo.

El Paramento. Los lienzos de piedra son del tipo pseudo-isodomón de la arquitectura arcaica de la región andina de las Provincias de Canta y Chancay, y del tipo ciclópeo-almohadillado en la Provincia de Cajatambo con manifiesta influencia neolítica de los sectores arqueológicos de Chavín, de Huánuco y de Ambo, donde se descubre la arquitectura tiahuanaquense. Sillares tallados y pulidos en su cara exterior van unidos con una argamasa compacta, siguiendo una línea regular de junturas muy unidas en la ensambladura.


Entablamento de piedra
Solerас radiales
Ollas para guardar maiz
Terraza-Granero
Chullppa funeraria
Capilla para ofrendas
Cista sepulcral
Mallqui
Escalinatas
Hipogeos
Corniza
Terraza
Chimenea
Sala principal
Comedor
Estufa y Cocina
Piso empedrado
Criptas Subterraneas

CORTE VERTICAL de un "KULLPI" compuesto en CHIPRAK

FIG. 5

El Frontispicio. Los edificios de esta región presentan esta notable característica que les distinguen de los demás: Delante de la puerta y a lo largo de la habitación llevan un corredor *huayrona*, a manera de un vestíbulo o *hall,* dentro de un enorme pórtico de entrada o nicho, y sea de forma trapezoidal, cuadrangular o con falso arco; esta *huayrona* servía de conversatorio y de cocina. A los lados, unas criptas o cenatofios, ya sea para guardar cadáveres, ya para cocina, ya para depositar leña, *meñiga* y otros conbustibles o arreos domésticos.

Puerta y Ventanas. Una sola puerta sirve de entrada con orientación hacia el E., en la parte inferior del vestíbulo a una altura de 1 metro per 0.60 a 0.80

centimetros de ancho. Al carácter arcaico de estas puertas pequeñas obedece, siempre, a los fines estratégicos militares de todas las habitaciones de este sector: eran como unos fuertes inexpugnables. Se las cerraba con unos troncos, o raíces muy duras, o tabiques de cuero *gara-puertas*; un pequeño muro con estas materias en la entrada del vestíbulo anunciaba que el dueño estaba ausente y que la habitación estaba cerrada y no se podía penetrar.

Algunas habitaciones llevan hornacinas exteriores sobre la pared de la fachada que parecen falsas ventanas. En el umbral de algunas puertas o jambas laterales de las ruinas de Auquivilca se descubrieren petroglifos con decoraciones de felinos o serpientes. La influencia de los santuarios de Chavín de colocar los obeliscos o estelas conmemorativas en el pórtico de entrada se descubre, también, en estas habitaciones o palacios sacerdotales.

Corniza. El entablamiento de la techumbre con grandes lozas de piedra que miden de 4 a 5 metros largo por 0.50 a 1.20 metros de ancho que sobresalen de la superficie lisa a manera de cenefa. Estas soleras han sido talladas a golpe de maza en las canteras interiores de las mismas ciudades, probablemente sin celadas con hachas paleolíticas contundentes o con porras guanas de cobre muy pesadas. Las lozas monolíticas se colocaron longitudinalmente y unidas con barro fino de arcilla, siguiendo el orden de una cenefa y en series como en la construcción del Kullpi simple.

Imposta Corrida. En la región ecuatorial externa de todos les edificios se nota una greca de piedras en relieve que sobresale de la superficie de la pared, contorneando las caras de la habitación, a manera de un gran cinturón, llamada imposta en la arquitectura clásica. Probablemente, esta decoración arquitectónica servía para indicar la división de las cámaras superiores con respecto de las cámaras subterráneas.

Las Pilastras. El interior de los edificios está compartido en una serie de cámaras o cuartos interiores, separados por unos tabiques de piedra y de unas pilastras que se ensanchan en la parte superior para sostener el cornizamiento y todo el peso del edificio, así como las paredes laterales que descanzan sobre un grupo de pilastras en forma de una columnaria o portal: digno de mencionarse ésto por su notable semejanza con la arquitectura egipcia y griega primitivas. Los pilones de piedra y los doseles de las paredes laterales que se proyectan, forman alrededor de las salas principales un conjunto tan armonioso que, verdaderamente, se queda extasiado el observador al contemplar los detalles interiores que son de mayor belleza y tanta gracia en medio de la rigidez de la línea recta que domina en la fachada del edificio.

En la arquitectura de la quebrada del Chillón figura una sola pilastra de forma cilíndrica o piramidal invertida. En la arquitectura de la quebrada del alto Pasamayo y Cajatambo figuran de 4 hasta 10 pilastras interiores que, juntándose, forman pórticos trapezoidales, columnarias, cavidades y recintos, destinados para cocinas, criptas, dormitorios, depósitos para comida, graneros y cámaras para guardar alhajas, vestidos y cerámicos.

La Falsa-Bóveda. Las cámaras interiores del edificio o palacio que tienen mayor extensión, presentan, indefectiblemente, una falsa-bóveda. No se conoce en esta clase de *kullpi* la cámara cúbica: a veces hay uno, dos o cuatro cuartos con este tipo de cúpulas. La firmeza del edificio se debe a la consistencia del trabajo de las pilastras; y la de la bóveda, respecto de la arquitectura arquitrabada del entablamiento o corniza: las que, una vez afianzadas, aseguran la solidez del edificio. Por esto, la cúpula toma la forma esférica, cónica, ojival, triangulada, piramidal y rebajada, presentándose, así, con el carácter de falsa-bóveda en pechina; cargando la cúpula sobre un espacio cuadrado o poligonal, dada su facilidad para montarlo sobre los grandes bloques de piedra enclavados en el suelo, aunque después no haya cerrado el vano por cortarlo la corniza.

Ornamentación. Los detalles arquitectónicos que descuellan no independientemente de la pared, sino enclavadas mecanicamente en el muro, forman parte de las siguientes decoraciones: Grandes doseles, a manera de cortinas en los salones o de estalactitas en las cavernas, ensanchados en la parte superior sirven de sostén al cornizamente y delgadas en la parte inferior a graderías, como una repisa, mantienen la gravedad del edificio; dentellados que salen horizontalmente en torno de la cúpula o paredes laterales; mútulos y cartelas corridas que se proyectan de las paredes. Un enlucido de barro coloreado de rojo, o con decoraciones geométricas pintadas, cubre la superficie lateral de piedra de las salas principales.

Las Hornacinas y los Graneros. Se nota en las paredes laterales interiores numerosas alacenas o nichos de forma trapezoidal o rectangular *hornacinas,* que dan paso a galerías o terrazas que comunican unos compartimientos con otros y que recorren horizontalmente el interior de los gruesos muros de las salas. En estas terrazas se encuentran, aún, restos de cerámica gruesa y ollas muy grandes que servían para guardar maíz, papa y vestidos. La necesidad urgente de tener lugares seguros y abrigados para guardar y conservar los granos que constituían el principal alimento de los moradores indígenas, las semillas que debían mantenerse con las debidas precauciones, el fermento en los cántaros de chica de las bodegas indígenas, los roperos de barro para guardar el ajuar y, aún, las alhajas de oro, plata y cobre, obligaron, más que por estética fué por confort, a edificar estas galerías o despensas emparedadas a lo largo de los muros laterales del edificio. De estas galerías superiores muchas fueron utilizadas como ventiladores por medio de ventanitas diminutas que comunicaban con el exterior.

La Cocina y las Huayras. Nada acusa mejor el carácter de habitación que guarda el *Kullpi,* llamada también *Chulpa* por algunas tribus (tumbas sagradas), que el haberse encontrado en éllos indicios de hogares con las paredes ennegrecidas de éllos, los desperdicios de cocina, cenizas y huesos de animales silvestres. En todas las habitaciones se descubre interiormente y en un ángulo do un compartimiento pequeño, una estufa embovedada provista de chimenea construída por dentro de la pared y que comunica con el exterior por la cima del edificio y que, a la vez, debería utilizarse como cocina y como calentador.

En las ruinas de Chipprak se descubrió una habitación que tenía una hornilla hermosa con su puerta pequeña y decorada para quemar metales: uno de esos altos-hornos contenía una chimenea cilíndrica de 1 metro de diámetro, llamado *huayra,* con un compartimiento que servía para guardar el metal en bruto y las habitaciones del platero o joyero dedicado a estos trabajos de orfebrería. Los restos de una alfarería grosera y los restos cinerarios que cubren el suelo de las cámaras interiores y los alrededores de las casas con un grueso basural, indican, claramente, el uso constante del fuego para todas las actividades de la vida doméstica.

Los Cuyeros. Los roedores que más facilmente se domesticaron, fueron los *cuyes* o *cuís,* conejitos de Indias; pero, no así, las *viscachas* montaraces. El cuí es muy parecido a la rata de campo que vive junto a los arroyos o manantiales; y en su domesticación se emplearían métodos semejantes a los que emplearon los chinos en la rata de la Mongolia, rata almizclera, para fines alimenticios o industriales por su cuero finísimo. Los cuyeros se llamaban *pucutos,* eran un guarida en forma de horno con galerías pequeñas, poyos de piedra ahuecados y criaderos subterráneos. La mayoría de los cuyeros se hallan situados junto a las paredes exteriores del edificio y en los patios principales.

Los Patios, Jardines y Palenques para Llamas. La característica principal de este tipo de habitaciones está en tener algunos patios destinados para levantar mausoleos sepulcrales, cubiertos con las frondas umbrosas de unos árboles corpulentos llamados *carrampas, pattes, chachas,* que tienen unas flores blancas y encarnadas de un púrpuro que se destaca aterciopelado sobre el verdor de sus hojas parecidas a la higuera.

En otros patios el *gantte* forma verdaderos jardines con sus flores de color blanco-crema, blanco salpicado en puntos rojos, granate, rojo-vermellón, rojo-carmía, violeta-obscuro, lila, azul-índigo, amarillo-gualda. Cuando estos *ganttes* cubren los mausoleos llenos de osamentas humanas y de enredaderas de *guayongontas*: cuando las *chsucllumays* o *chugllupuquios,* las *limac-huaytas* y las *chsihuas* se esparcen por primavera en las cornizas y techados de las habitaciones, es de una poesía y de un gozo inefables el contemplar estos jardines históricos en medio de un silencio de muerte y de misterio. ¡Es encantador el paisaje de las poblaciones aborígenes adornadas con este tipo bellísimas silvestres¡¡ Jardines naturales¡¡

Las poblaciones, casi siempre, están en medio de estas florestas, donde crecen los árboles y los arbustos, floreciendo con tanto primor y belleza, allí, las aves de la región hacen sus nidos y por la mañana, cuando sale el Sol, y por la tarde, cuando se oculta, es una dulzura el escuchar cómo pían los *huáychaus* (los zorzalos), cómo arrullan los *llipous* (palomas torcazas), cómo trinan con tanta dulzura—cual violín de los campos—los *riwis* (los ruiseñores), cómo cantan implorasamente los *huanchasos* y los *llovíes* (alondras andinas) al atardecer¡ como quien pidiera al Cielo el rocío de sus lluvias¡ Con razon, la sensibilidad artística de los pobladores andinos no buscó las punas yermas y desoladas de la Cordillera para hacer sus casas, sino las quebradas templadas y de clima primaveral con sus frondas y panorama alegre de verdor, con sus aves y demás animales silvestres, con sus arroyos y fuentes de agua cristalina que bañan los cerros tapizados de paja y salpicados de magueys, de *savilas* (alóes o palmeras andinas), de *cactus* que se retuercen como serpientes por el suelo o que se elevan al cielo como columnas de invocación, con sus árboles que dan sombra y descanso a los agricultores que se recuestran sobre sus troncos seculares para hallar un alivio de sus fatigas cotidianas en sus maizales dorados y en sus papales florecidos.

Junto a las habitaciones y patios principales se ve, casi siempre, un rumiante apacible que es compañero inseparable del hombre andino: el llama. Cuando son varios se reúnen en unos patiocito circulares acorralados, llamados palenques o *canchas,* donde se depositaba el guano de llama tan necesario y solicitado para abonar las tierras de cultivo.

2. *Arquitectura Funeraria.—Tipos de tumbas.* Tres son los tipos de tumbas que predominan en las poblaciones andinas: a, Las cámaras inferiores sepulcrales; b, Las mastabas superficiales; c, Las cavernas funerarias.

a. *Las Cámaras Inferiores Sepulcrales.* Hay un tipo de galerías subterráneas o compartimientos inferiores de los *kullpis* que parece, fueron utilizados como cenotafios, a las cuales se bajaba por medio de escalinatas empedradas, donde se hallaron depositos de osamentas humanas: *momias* enfardeladas en cueros, fragmentos de cerámica, restos de vestidos; constituyendo así, verdaderos hipogeos. La última serie subterránea del fondo de la habitación o piso inferior sepulcral manifiesta la tradicional costumbre de utilizar las cistas funerarias: pozos cilíndricos, fosas amuralladas y tapadas con grandes lozas planas que contienen una ofrenda animal, un llama, y cubren el interior de una cripta, donde se hallan enterrados los *mallquis* o *achachillas*—los viejos progenitores, los patriarcas de la tribu, los fundadores de poblaciones y constructores de las habitaciones: algo así como los héroes epónimos; los *kurics* o jefes de la comunidad, los *curacas* y los incas pre-históricos que se enterraron rodeados de sus mujeres e hijos pequeños con su ajuar completo, *ex-votos,* bien conservados y sus cerámicos finos, polícromas y esculturales.

b. *Las Mastabas Superficiales.* Las *mastabas* superficiales consistían en una casita muy pequeña, del mismo estilo y arquitectura de las casas—habitación grandes, que servía para guardar cadáveres, y parece como un accesorio exterior de las fachadas de las habitaciones: estas casitas funerarias se llaman *chullpas.* En las plazuelas se nota, generalmente, una casa principal que lleva una chullpa contigua, otras llevan dos, tres, cuatro y más chullpas, a manera de un cuartel circular de nichos o mausoleos; lo mismo se ha descubierto en los patios de algunas casas intermedias notables. Además, de encontrarse las pequeñas *chullpas* en los patios y plazuelas como mausoleos de una familia noble, se les encuentran agrupadas fuera del radio de las poblaciones, formando una verdadera necrópolis. Dentro de estas tumbas hay, igualmente, varios cadáveres con su indumentaria y restos de cerámica. Delante de la *chullpa* hay una puerta pequeña que conduce a un alero—capilla pequeña—para depositar flores y la coca de los transeuntes que, al pasar por allí, dejan como ofrenda a los antepasados: son adoratorios de estos mausoleos e santuarios fúnebres.

c. *Las Cavernas Funerarias.* En todas las poblaciones pre-colombinas de esta región andina se han encontrado, fuera de la ciudad, unas cuevas superficiales, irregularmente formadas por enormes bloques de piedra que semejan pequeñas cavernas rudimentarias trogloditas; las cuales fueron, más tarde, empleadas por el hombre poco civilizado como cripta común o zanja mortuoria, donde debían depositarse los cadáveres de los que componían, precisamente, la clase del Pueblo. El hacinamiento de cadáveres superpuestos y osamentas disgregadas del tronco, los diferentes tamaños de cráneos y huesos largos, la ausencia de indumentaria y de otras reliquias personales: dicen, claramente, que esas cuevas-tumbas formaban un tipo de necrópolis para la clase pobre. Estas cavidades naturales, que servían de receptáculo fúnebre común, se llaman cavernas funerarias; las que llevaban sobre la roca de cara plana, que servía de una gran lápida, inscripciones epitalámicas con gráficas del Sol, de la Luna, de un puma, de una rana, de un reptil, según hayan sido sus totemicas creencias.

3. *Arquitectura Religiosa.—Tipos de Santuarios.* De los estudios metódicos hechos en el descubrimiento de las poblaciones pre-históricas de esta región arqucológica, llamadas ruinas, se ha venido a comprobar que el hombre, en todos los tiempos, ha tenido idea de la existencia de un Sér Supremo, de una Fuerza Unica, que todo lo mueve y le gobierna y a quien debía tributarle respete y adoración. De este respeto a la Divinidad le nació el sentimiento de erigirle un lugar de adoración, un santuario o templo, según las facilidades y el medio en que el hombre vivía. Es así como el hombre andino y el hombre costeño construyeron sus monumentos sagrados, donde dieron morada a sus divinidades totémicas, a sus ídolos, ya que todos rendían culto a la Naturaleza.

Se distinguen dos tipos de Santuario en la región arqueológica del Departamento de Lima: a, La Caverna sagrada andina; b, El Templo piramidal costeño.

a. La Caverna Sagrada Andina. Los montes y las nieves perpetuas de la Cordillera de la Viuda fueron los lugares más propicios para el mantenimiento del Culto: en sus elevadas cimas se inmolaron víctimas humanas a la Divinidad Suprema.

El culto religioso se ejecutaba en ciertas cavernas naturales, arregladas artificialmente y delante de un hoyo abierto en el suelo. El material litúrgico constaba de rocas agujereadas, alrcdedor dc las cuales se hacían libaciones en torno de la divinidad, ya sea con sangre, ya sea con chica; esto se hacía, principalmente, durante el año malo de sequía, así como en todas las épocas de la limpia de acequias para el riego.

Estos santuarios arcaicos, a cielo abierto, estaban situados en la cresta de los cerros, al pié de las cumbres de las cordilleras, en las faldas propicias al culto, en las *apachetas,* en los *puncosh* o cambios de paisajes; estaban adornados de monolitos, más o menos, groseramente tallados en piedras comunes con aspecto de personas y bajo cierta perspectiva o ilusión óptica; grandes o largos bloques de piedra en sentido vertical *huancas,* a manera de columnas o *menhires,* que de un modo natural emergían del suelo, o eran colocados de exprofeso al frente del dintel da las cavernas, cual se fueran estelas votivas, o en el centro de las grandes represas de agua para el culto hidrolátrico; altares consistentes en rocas planas y cuadradas morteros y batanes, sobre las cuales fueron preparándose, día a día, ritos sangrientos de víctimas humanas, sacrificios de llamas, vicuñas y tarugas y, por último, el infanticidio sagrado y el holocausto de los primogénitos por la terminación feliz de un edificio o por la inauguración de alguna obra comunal. Hubo, pues, un sentimiento religioso y se tenía el sentido de la supremacía divina, de la propia dependencia de esa terrible Fuerza de donde nace la vida y se regula la muerte: y, según esta idea, el símbolo de la Divinidad le constituía un ídolo, más o menos, antropomórfico, juzgado como morada de Ella. Al pié del ara de los sacrificios se colocaron estelas votivas o conmemorativas en petroglifos y emblemas totémicos, en cuyos santuarios las tribus vecinas rendían el homenaje de su adoración a la Suprema Divinidad por medio de plegarias, libaciones de chicha, fumigaciones de coca, materias resinosas, hojas olorosas, cánticos religiosos, retumbantes gritos plañideros, danzas sacerdotales, ritos fálicos y orgías interminables.

El Sacrificio Humano de la Mancuña. Los ritos totémicos y tabuistas que, como ceremonia oficial, tenían lugar en casi todas las cavernas sagradas de esta región, no solo ha persistido su existencia por muchos años en la época de la Conquista, a pesar de que los conquistadores españoles ejercitando ciertas venganzas personales victimaban a los indios y los perseguian de muerte para exterminar la idolatría, sino que, todavía, sobrevive en el recuerdo de los naturales la práctica de la macabra costumbre de la *Mancuña*: ceremonia cruenta realizada, especialmente, en algunos pueblos de las provincias de Canta, Cajatambo, Huarochirí y Yauyos, como en Lachaqui, Viscas, Jicamarca, Quilcamachay y Collata, donde se ofrece, en lugar de niños, algunas llamas blancas y otros animales. Los sacrificios cruentos deberían realizarse en los años de sequía, de peste e desgracias generales.

Refieren las tradiciones i crónicas comunales que el sacrificio humano de la *Mancuña* consistía en la entrega de los mellizos e hijos primogénitos que los recién casados, por un tabú, debían llevar a cabo, a fin de no atraerse la enemistad divina y el enojo de los jefes de la tribu. El holocausto infantil se realizaba de noche: debía ser voluntario para mayor mérito y agradar a la Divinidad.

Más tarde, cuando este culto fué proscrito por los jefes de la Cristianidad, los brujos del pueblo robaban a los niños, o los arrebataban de los brazos de la madre, o los ocultaban por algún tiempo, a fin de sacrificarlos después a sus ídoles predilectos. Así sucedió, en aquellos tiempos, a una señora María Pallachu, quien, habiendo ido a una fiesta notable que se celebraba en el pueblo de Carhua, perdió a su pequeña hija en este pueblo; sabiendo después que los brujos de Viscas se la habían robado para sacrificarla, luego, en la Caverna Sagrada de Cahuara del cerro de Lucana. La piedra de ara y el mortero donde fué sacrificada la niña se conocio mas tarde, con el apodo de Mama María Pallachu que fué robada por los vecinos. Se aseguara que, en cierto tiempo de contienda por pastos entre las parcialidades de Viscas y Carhua, los naturales de ésta, por venganza, robaron ese ídolo y reliquia histórica de Viscas, teniéndolo oculto en las alturas; por cuyo crimen de profanación, los dioses castigaron a los moradores de esa región con una terrible peste de sequía y de hambrona que se conoció con el nombre de María-Pichana. Posteriormente, por la misma clase de litigio, los naturales de Lachaqui arrebataron el ídolo a los de Carhua para los mismos fines rituales; conservándolo oculto en sus cavernas y de donde lo sacan, en cierta época del año, como un verdadero trofeo cuando amenaza una calamidad, tal como: la escasés de lluvias, cuando *tayta-Conchse* hacía llover valiéndose—dicen—de su ídolo y ritos tabuistas.

Felizmente, esas creencias idolátricas y costumbres diabólicas van desapareciendo en estos pueblos; aunque, todavía, lo conservan en algunos de la Provincia de Huarochirí y la practican en distinta forma. Allí, la sangrienta ceremonia se verifica, aún, entre los mismos adultos, según se nos ha informado con algún fundamento, de esta manera:—Algunos viajeros que habían llegado a esos lugares, un poco disipados, se han emborrachado con los mismos del lugar y, desgraciadamente, seducidos han salido con engaños a la ver a del camino, lejos de la población, envlorados, bailando alegres *huaraçanchas* al son de una arpa y violín: cuando en plena bacanal y en una de esas vueltas vertiginosas han sido arrejados al fondo de un precipicio, por éllos conocido, y tapados para siempre por medio de unas piedras que cubren el adoratorio de Collata. Esta ceremonia, todavía, es conocida con el nombre de Mancuña.

El Culto de los Antepasados—El Pagare. La ceremonia funeraria del Paccari, Paccarina o Pagare, en honor de los progenitores o troncos familiares Mallquis, Kuris o Achachillas, consiste en depositar sobre la piedra de ara que cubre la tumba, un llama o *pacocha* consumida por el fuego, reuniendo las cenizas y los huesos calcinados sobre las lozas de la sepultura a manera de sacrificio por los manes del difunto; y, luego, con toda reverencia y respeto, preparar la comida sagrada en viandas especiales, ''chacchar'' la coca en el mayor silencio, hacer las fumigaciones y libaciones rituales con el espíritu protector del difunto actual y con los de los antepasados.

b. El Templo Piramidal Costeño. En la región de la Ceja de Costa los Templos Sagrados consistían en unos monumentos de forma piramidal en que se advierte unas plataformas escalonadas que se comunican por una escalinata empedrada que remata en la parte más alto y angosta, donde hay una pequeña plataforma ovalada y en cuyos contornos va un corredor con portales; al centro de la plazoleta existe una mesa de piedra en forma paralelepípeda con una pequeña fosa circular contigua y empedradas sus paredes laterales como la entrada a un profundo subterráneo. En esta cima, a manera de atalaya, se dice, se reunían los moradores de la población, en ciertos días del año, .presididos por los mandarines de la tribu y procedían a la ceremonia religiosa en medio del mayor respete y recogimiento, interrumpido, de cuando en cuando, por unos gritos y movimientos acompasados como demostración de dolor e invocación a la Divinidad. Acompañaba en este acto votivo la inmolación de un llama o venado, cuya sangre corría por la fosa acanalada al seno de la Tierra, mansión de la diosa Pacha-Mama, para saciar sus deseos de adoración por todos sus hijos; luego, se cubría con leña a las víctimas y se prendía fuego para convertirlas en cenizas, las que eran esparcidas por el Michuc de la tribu sobre el conjunto de los adoradores.

El mismo rito se practicaba en las grandes ciudades como en los pequeños ayllos; así hemos encontrado adoratorios similares en la gran metrópoli de Chipprak como en la ciudad tributaria de Puppac, en la ciudadela fuerte de Agnay y en la legendaria urbe de Cantamarca.

En la Costa ribereña estos templos consisten en unos promontorios de forma piramidal con plataformas sucesivas, terminando en la cúspide con una cámara sagrada que era el santuario de la divinidad totémica. Estos santuarios son del tipo del Santuario o Templo de Pachacamac, cuyo estudio ya ha sido conocido por los profesores Spinden y Max Uhle. La analogía que guardan estos santuarios con los templos mayas centro-americanos, inducen a creer en la influencia mayoide en toda la región occidental marítima del antiguo Perú.

En una de nuestras excursiones practicadas, el año 1924, por la región del río Pasamayo en los distritos de los Atavillos de la provincia de Canta, descubrimos al S. del pintoresco valle de Huayopampa un promontorio que afecta la forma de un cono truncado, llamado El Morro de Limpancoto. Este promontorio, como formado artificialmente, tiene una base circular que mide unos trescientos metros de circunferencia, de donde parte la primera plataforma; luego sigue la segunda de 200 metros de circunferencia. Sobre esta última van tres cámaras de forma cuadrangular que comunican entre sí por una puertecitas pequeñas; siendo una larga escalera de 2 metros de ancho empedrada que conduce desde la base hasta la cúspido del monumento con vista al Oriente. Practicadas algunas escavaciones en los compartimientos de la cámara general se encontró grandes ollas de pasta gruesa rojisa, de golletes y asas bien pronunciadas: su forma es ovoidal unas y esferoidal otras, llamadas *pampana-manca*. Dentro de estas grandes ollas se encontraban unas ollitas pequeñitas redondeadas con dos asitas, unas vasijitas con una asita en forma de jarrito sin asiento y otras vasijitas alargadas sin asas: con gollete unas y sin gollete otras. En una olla grande de la cámara central principal se encontró dos *totems* representativas de la reproducción animal y vejetal (el maíz industria predilecta de la región): divinidades protectoras interpretadas por una Pacha-Mama de sustancia ó sea y una Jara-Mama de materia basáltica; esto es: una figurita humana y una mazorquita de máiz.

El Mogote, llamado así por los naturales al morro de Limpancoto, es un verdadero santuario, denominado el Adoratorio de Limpancoto. Así lo comproban: su posición topográfica, pues se levanta al centro de la pintoresca esplanada de Chupancac, ''maizal de los pueblos de Pállac y de San Agustín de Páriac''; bañado por el riachuelo de Quinchiura por el S., por el Ingenio de Pasarón al O., por el camino real Huayopampa-Huaral que corta la Rinconada de Sococoto al N., y por la ubérrima campiña de Huayopampa al E. Las ollas votivas y los vasos sagrados, los *totems* allí encontrados y las leyendas fantásticas ''de procesiones nocturnas a altas horas de la noche con canticos extraños y cordones de luces azulinas. . . .'' todo hace convenir que Limpancoto que se levanta, allá, en el fodo de un vasto y hermoso campo dorado de mieses y árboles frutales, es un verdadero Adoratorio.

Arquitectura Militar.—Objeto y localización de las Defensas Militares. Siguiende las reglas del orden táctico, las defensas militares pre-colombinas del Departamento de Lima tenían por objeto:—

1. Defender las ciudades principales, metrópolis, centros agrícolas y ganaderos de la región andino-costeña cuyas riquezas convenía preservar, de la posesión de los puentes sobre el curso de los ríos de la Costa y de ciertos puntos importantes; tales como: los nudos de comunicación de la Cordillera, de los flancos, caminos y malos pasos de la quebradas, ya sea de la *invasión longitudinal del Norte* que venía del Gran Chimu, ya sea de las *invasiones longitudinales del Sur* que partían de los belicosos Chinchas;

2. Defender, con los mismos fines estratégicos anteriores, la región andino-costeña del Departamento de Lima de la región del Mantaro por los innumerables caminos que, de N. a S., conducían a los fieros y aguerridos Huanucuyos, Huancas, Chancas, Pocras, Collas, Aimaras, Lupacas y Quechuas, empujados, quizá, por otras olas migratorias florestales.

Lengua Común. Respecto a la lengua que hablaban estos pueblos en el período de las conquistas y expansiones militares, de las migraciones y convergencias de cultura, puede decirse que la lengua dominante de la Costa fué el *múchik* o lengua *yunga* que se extendió hasta las frías serranías de la Cordillera. Las migraciones de los pueblos de habla quicho-aimara a los valles de la Costa desde el más remoto período arcaico, puede afirmarse, habían tenido lugar en una época anterior a la última conquista de los Incas.

El período de incuencias y eslabones de cultura entre las civilizaciones andina y costeña pueden evidenciarlo no solo estos caminos militares, sino estas rutas civilizadoras en una época en que las culturas heterogeneas tendían a homogeneizarse, siguiendo las leyes de la adaptación al medio, biológicamente hablando, y de una trayectoria concéntrica, o una convergencia de cultura, posiblemente, para gestar la portentosa civilización de Tiahuanaco que vino después del período estílistico de Chavín.

Al presente, hemos podido estudiar, sobre las mismas ruinas, las cuidades fuertes, los campos de atrincheramiento, fortalezas, ciudadelas, atalayas, puestos de observación y de avanzada, fuertes de contención de los campos atrincherados o zonas estratégicas siguientes:—

I. Las defensas pre-colombinas de la quebrada del río Chancay
II. Las defensas militares pre-colombinas de la quebrada del río Chillón
III. Las defensas militares pre-colombinas de la quebrada del río Rímac

Por espacio de algunos años hemos podido explorar cada una de las ruinas que saltan en este breve trabajo a una minuciosa descripción, contentándonos con citar las principales fortificaciones de una manera general.

I. Las Defensas Militares Pre-colombinas de la Quebrada del río Chancay—Región andina. Siguiendo el orden táctico de los núcleos centrales, plazas fuertes y ciudadelas atrincheradas las defensas de esta quebrada tenían, según la orientación de la Costa a la Sierra O. a E., el siguiente orden:

1. Metrópoli y núcleo central de Chipprak de la región de Atavillos Bajo. Esta metrópoli estaba defendida como centro poblado por las fortalezas de Rúppak hacia el O., de Agnay hacia el S., de Corcopa hacia el E. y de Huascoy hacia el N., en el sector de la vertiente izquierda del río Pasamayo.

Se dividen en las siguientes secciones:—

a. De un cinturón de tres murallas de circunvalación de dos leguas de largo por 1 metro cincuenta de ancho que rodea el grueso de la población completamente cerrada, provista de bastimentos, una canalización de agua y dos reductos de guarnición: el primero hacia el Oriente, y el segundo en el centro de la población frente a la plaza principal, resguardando la casa del Curaca o el Cuartel general.

b. Una línea exterior de murallas, dominando las vías de acceso de Pampas, Mango, Huascoy, estaba destinada a ofrecer una primera y formal resistencia. Murallas interiores dividen los barrios urbanos de la ciudad con propósitos estratégicos.

c. Una zanja artificial muy profunda frente a las posibles invaciones del Oriente por el lado de la Cordillera, de Mango y de Churán, y unos muros con pórticos fueron los atrincheramientos más notables de la Ciudadela.

d. Una atalaya sobre la colina que domina desde el espolón andino del Mango-Capac, el camino Chancay-Junín, es el observatorio general de toda la quebrada del río Pasamayo que vigilaba los valles costeños de Cuyo, Huayllán y

Lumbra. Se componía de plazuelas circulares, torreones y cuarteles para centinelas.

c. Fuertes de contención de Cocarpacra, de Cullcocha, de Huamanichsu, Tauripampa y de Limpancoto.

2. Ciudadelas Fortificadas de la vertiente derecha del río Pasamayo.—Núcleo lateral de Urcos y Yaro de la region de Lampían. Esta Fortificación tenía por objeto defender las inexpugnables cumbres de Pullao y de Anco; cerrar el paso de la quebrada de Checras a las invaciones orientales que por el lado de Oyón amenazaban el sector militar de Iguarí; vigilar las maniobras de las quebradas de Ottek y de Naupay de la sección estratégica de la provincia de Cajatambo y sierra de la de Chancay. Este campo atrincherado tenía como fuerte de contención la ciudadela de Pamparcáyoc en el valle de Acos, frente a la Fortaleza de Chipprak de la vertiente izquierda.

Ciudad fortificada de Maranhuasi de la Región de Cárac. El baluarte guerrero que tenía mayores proyecciones para la defensa de las quebradas del río Pasamayo y río Sayán, era, indudablemente, Maranhuasi; cuya estrategia principal consistía en ocultarse a la vista de los feroces Huachingas de la región de Chancay y de Gorgor de la sección de Cajatambo, para luego hacerlos desaparecer en las yermas y abruptas gargantas de Coto y Ravira. El puesto de avanzada y fuerte de contención sobre el río Pasamayo para impedir el acceso de la vía Chancay-Junín, estaba situado sobre la cumbre inaccesible de Huampón.

Las ciudadelas de Coto-Marca, de Michahuali, resguardaban el paso del río Carác, afluente del Chancay en la desembocadura estratégica del Canchapilca.

Fortaleza de avanzada de la Región de Pacaraos. Esta inexpugnable fortaleza estaba situada al pié de las cumbres nevadas perpetuamente de Antaquirca y resistía, constantemente, el empuje de las invasiones orientales, ya de los belicosos Hunucuyos, Huancas y Tarumas por el sector transversal, ya de los valerosos Conchucos y Huamachucos del ejército Tallane que desde el Norte atacaba, rudamente, por el sector longitudinal.

La Fortaleza de Purun-Marca tenía, además, la consigna de impedir el acceso de las vías de comunicación, Junín-Chancay, en un caso dado, a través de la gargantas de la ensenada de Vichaycocha. Esta importante defensa se componía:—

a. De los fuertes de contención de Yana-cancha, Ararak, Yuli y Zapankullpi que impedían el paso del invasor, frente a los nevados perpetuos de Huamayte, Chungar, Puajanca y Tuyún en la región de Santa Catalina Baños, Santa Cruz y Chauca del espolón andino que vigila las quebradas de Pacaraos y de Baños.

b. Atalayas, observatorios en las cumbres de los cerros de la vertiente derecha del río Chancay, y los fuertes de contención de Chupas defendían las vías de comunicación con una serie de murallas que interceptaban el camino de los invasores, sirviendo para la lucha de intervalos a partir de la confluencia del río Pacaris con el Baños y que forman el río Chancay en el sitio estratégico de Tingo.

c. Reductos militares en las cumbres de Ravira y campo atrincherado en Viscas de Pacaraos, Hualina-cocha en la sección de Ñaupay, servían para vigilar las invasiones por Cajatambo y Cerro de Pasco.

2. Ciudadelas Fortificadas de la vertiente izquierda del río Pasama—Fortaleza de Auqui-Huillca de la región de Atavillos Alto. Una de las fortalezas que se cubren de nieve y está situada frente al sector de la Cordillera de la Viuda, dominando las vías de acceso a través de los nevados de Antán, Auquischani, Alay, Yagro, Kurmán, Quisac y Mariac, es, indudablemente, la Fortaleza de Auqui-Huillca con su hermoso Templo en honor al Sol. Allí se descubrieron adoratorios circulares, un obelisco sin decoración al centro y un edificio principal con petroglifos o emblemas, donde está dibujado el Sol estilizado y asociado al Felino, incrustados en el umbral de un pórtico.

Fortaleza de Marca-Piche. El sector más peligroso para la posesión de los valles de Chancay, por la quebrada de Baños en la ruta de las migraciones de Huayllay y de Huarón, fué aquella quebrada donde se situó el baluarte de avanzada de Marca-Piche, llamado: "El mal paso de Laylá y la bajada de Quiles." En aquellas quebradas se libraron rudos y feroces combates. Un aumento considerable de cráneos trepanados en las tumbas de Marca-Piche así lo demostró. El fiero invasor penetraba por Contadera o por las faldas de Tuyún y desaparecía en las grandes trampas que improvisaba junto al río Baños, la Fortaleza de Marca-Piche. Allí tenía lugar la defensa de los cinco puentes de los ríos Baños y Contadera.

Fortaleza de Rancocha de la Región de Pirca. Un gran centro poblado; con relaciones culturales con el Gran-Chimú; un valuarte guerrero frentes a las invasiones por las alturas de Auquischani, Antán, Churán, y Acomachay, y un campo atrincherado para defender las vías de acceso por el río Chancay, fué la Fortaleza de Rancocha.

Se componía de las fortificaciones secundarias siguientes:—

a. Fuerte de contención de Rierá hacia el Oriente

b. Fuerte de contención de Huaman-marca hacia el Norte, servía para impedir el paso del invasor por los terribles desfiladeros de Maranayoc

c. Fuerte de contención de Puchhumi hacia el Sur en la región de Passac.

La Fortaleza y el Adoratorio de Passac-Marcá. Sobre la cumbre de un cerro que defiende el valle de Huampón y Parantama, vigilaba el curso de comunicaciones por las orillas del río Pasamayo.

Región costena. Sobre las gargantas del río Chancay a lo largo del valle de San Miguel se levantan las ciudades fortificadas más notables, como las de Lumbra, Cuyo, Huayllán, Huando y Rettes que defendían invasiones bajadas por el abridero de Jacaybamba. Esta quebrada estaba defendida por las fortificaciones de Yanacoto, Pesquillo, Palap, Kaki, y Konkón.

La ciudad fortificada de Suculacumbi defendía el avance de los belicosos Huachingas y temibles Huanucuyos que acometían por el lado norte de las lomas de Lachay.

La gran Fortaleza de Paramonga—Castillo inexpugnable al N. de la Provincia de Chancay que defendía toda la región costeña del Pativilca de las acometidas furiosas de los Conchucos y demás tribus bárbaras que afluían de las vertientes del Huascarán.

II. Las Defensas Militares Pre-colombinas de la Quebrada del Chillón. Siguiendo el mismo orden de posición de las defensas militares de esta vía andino-marítima, cuya esplanada quebrada forma el río Chillón desde sus fuentes al pié de la cordillera de la Viuda, consignaremos las Fortalezas, las ciudades fuertes y reductos tendidos en ambas vertientes de la quebrada, las que, constantemente, tenían que contener el rudo empuje de los feroces Tarumas y Huancas que habían encontrado fácil acceso en sus incursiones a los valles de la Costa occidental. Para impedir esa avalancha humana se formaron fortificaciones por una y otra margen del río Chillón, a manera de grandes columnas, parapetos y atalayas desde la Cordillera al Mar.

Así, se encuentran: la Fortaleza de Ñaupajayán frente a la Cordillera de la Viuda; el Fuerte de Capur en la quebrada de Gasgachín y de Armas que cerraban el paso de la quebrada de Huandococha y Cabecera de la Cordillera y del Chillón; los fuertes de contención de Aynas y de Huisoco en Huaros; la Fortaleza de Huacos-marca en Huacos; lo mismo que el Fuerte de contención de Pacash; la Fortaleza de Kakán y ciudad fortificada Pumacoto en San Miguel; la Fortaleza de Augnay y Fuerte de contención de Auquimallqui en San Buenaventura; la ciudad fortificada de Tauripunco en San Jose; y así, como Apán, Macas, Trapiche, Carawayllo, Copacabana, a lo largo de la margen derecha del Chillón. La ciudad fortificada de Cantha-marca que se levanta como una inmensa atalaya al centro de la entrada anchurosa de la cuenca del Chillón y frente a la Cordillera de la Viuda y de la moderna ciudad de Canta, respaldada por el reducto fortificado de Callacoto; las ciudades fuertes de Urcomarca y Paucamarca en Pariamarca; Huayrinshire y Curiac en Carhua; Allauca-Viscas y Choca-Viscas en Pampacocha; Huanchos y Kekas en San Lorenzo; Yasu-Viejo, Quivi, Puccara, Thapan, Chocas y Fortaleza de Collique, están en toda la extensión longitudinal de la margen izquierda del mismo Chillón.

Las condiciones arquitecturales de estos ayllos fortificados son casi las mismas que la estructura física de la ciudad fortificada de Chipprak; estando la variedad esencial en la clase de material de construcción: piedra casi completamente con una especie de argamasa de ligamento entre unas piedras con otras en la región de la Sierra; piedra y barro en los cimientos y adobones por lo general en la región de la Costa. Las gruesas y elevadas murallas que encierran las poblaciones son siempre de grandes piedras embutidas con barro y piedras menudas, siendo verdaderos fuertes inexpugnables que defendían la entrada a la población por el enemigo.

III. Las Defensas Militares Pre-colombinas de la Quebrada del Rímac. Las leyendas mitológicas y ritos totémicos atribuídas a todas las poblaciones de esta importante región regada por el río Rímac, desde su origen en los nevados perpetuos de Anticona, nos dicen claramente del carácter belicoso y guerrero de sus pobladores. El culto a la divinidad principal, el Wallallo, y a las otras divinidades subalternas, como, Llaukapa, WancarKirka, ChenaKoto y otras, nos dicen, también, del carácter guerrero y belicoso de los pueblos arcaicos de las regiones de los Huarochiris y Yauyos, hoy provincias de Huarochirí y Yauyos del Departamento de Lima.

Las luchas constantes sostenidas entre todas las invasiones de los Wankas por el Este y los Yungas por el Oeste, fué menester construir pueblos fortificados, fortalezas y fuertes de contención en toda esa vasta como estratégica comprensión territorial; así, vemos en las ciudades fortificadas de Macancho, Chuyac, Shaullipampa en Jicamarca; Wankallka y Okshayko en Casta; Cóndor Koto en Langa, etc.; que, por creerlo demasiado extenso este trabajo, suspendemos la descripción detallada de esta porción arqueológica del Departamento de Lima, para otro estudio de continuación y, luego, presentarlo en una próxima oportunidad.

La ciudad fortificada de Pachacamac que encierra el gran Templo dedicado a la divinidad temible dios Pachacamac: sus murallas y sus atalayas nos dicen de su carácter eminentemente militar, que resguardaba los tablados del valle de Lurinc, al sur de la moderna ciudad de Lima. Pachacamac era la gran metrópoli de los poderosos Yungas, dominadores de todas las poblaciones precolombinas que forman hoy el Departmento de Lima, sede del Gobierna de la república del Perú.

Arquitectura Costeña. a. Las Habitaciones ribereñas o Cabañas. Las habitaciones de la Costa más antiguas están caracterizadas por ciertas chozas de ramaje o cabañas de un período correspondiente a un industria lítica, paleolítica, al lado de una alfareria pre-artistica en ciertes paraderos de pecadores antiguos en Supe, Chancay, Ancón, Bellavista, Chorrillos, Chilca, Mala, Cañete, situados, generalmente, en los lugares aborigados y en las colinas contiguas a las bahías o ensenadas marítimas.

Se distinguen estos lugares con el nombre de Conchales por la abundancia de conchas de diferentes formas y colores, péctenes, spóndilus, límax y toda clase de mariscos, huesos, residuos de diversos alimentos y cenizas que rodean las habitaciones, formando en medio de las poblaciones una gruesa capa de basural, análoga, por este motivo, a las habitaciones de los daneses llamadas *kjockkenmoddings.*

Las excavaciones metódicas que hemos comenzado a practicar en la Necrópolis de Ancón nos han revelado un tipo de habitaciones hechas de ramaje de pacae y algarrobo, caña brava y totora, en forma circular y cilíndrica, como los túmulos, divididas en dos cámaras: la habitación superior habitable, y un subterráneo sepulcral. Aquí, los cadáveres han sido enterrados horizontalmente, raras veces, envueltos con esteras y embutidos con paja o colocados dentro de grandes ollas o tinajas de barro.

La cerámica es grosera, de forma análoga al tipo andino y de una decoración incisa en algunos vasos de pasta fina y compacta.

El edificio tiene por base un cimiento de piedras rodadas de color negro y traídas de un enorme pedregal, donde revientan las olas cerca del cerro Pasamayo y de la quebrada de Canarios. Las piedras están mezcladas con barro y embutidas con ramajes para darles solidez, siguiendo una forma ovalada o circular que mide de 2.50 a 4 metros de diámetro. Las ruinas de Ancón están, directamente, relacionadas con las ruinas de la quebrada del río Carahuayllo o Chillón de la Provincia de Canta.

b. Habitaciones piramidales de la Costa, propiamente dicha. En esta zona central de la Costa las habitaciones afectan una forma de pirámide truncada; el material que empleaban era la piedra con barro para los cimientos y el adobón para los muros, siendo el techo en forma de ramada con palos de pate, de algarrobo, de caña brava y cubierto con hojas de plátano y barro. Eran de pequeño tamaño y altura, comprendiendo una área de 15 a 20 metros cuadrados.

Están situadas, generalmente, sobre la parte más alta del desnivel del suelo, sobre los morros o rinconadas de las quebradas; lo que manifiesta, desde luego, el sentido de la conservación contra las inundaciones de los ríos y de la defensa contra las invasiones de los ayllos enemigos.

c. Habitaciones paralelepípedas de la Ceja de Costa. En la región conexa entre la Costa y la Sierra las construcciones arquitectónicas en la habitación es más perfecta, es decir, guarda mayor simetría y estética en su fachada y en su conformación interior. Todas tienen la forma geométrica de un paralelepípedo rectangular, sin faltar algunas de forma cúbica, con corniza, a propósito para defenderse de las lluvias.

El material empleado es la piedra, únicamente, empalmada una con otra por una argamasa arcillosa delgada y fina: las piedras tienen caras planas y paralelas al natural, extraídas de las canteras jurásicas y adoquinosas que abundan en las crestas occidentales andinas, dando un frontis a la habitación en que se revela el sentido desarrolado del nivel y de la plomado. Tanto los muros como los techos son de piedra, acomodados de tal manera que el engranaje de los monolitos de la cima del edificio va estrechándose en falsa-bóveda, interiormente, conservando su forma rectangular exterior. Son del tipo de las habitaciones de la ciudad fortificada de Chipprak ya descrita adelante.

Las dimensiones se pueden calcular en 5 a 8 metros de largo por 3 a 4 metros de ancho y por 4 metros de alto, con compartimientos interiores que comunican por puertecitas de I metro de alto por 0.60 centímetros de ancho. Generalmente, están ubicadas en las crestas de los promontorios para librarse del inundamiente de las aguas de la lluvia *llocllias* o ''huaycos,'' para hacerse inaccesibles a la invasión de la tribus enemigas y para, también, darse mayor extensión en los campos de cultivo; pues, los pobladores de aquellas edades primordiales eran eminentemente agricultores: no desperdiciaban un palmo de tope de tierra cultivable, llevando el agua de irrigación a las pendientes más elevadas por medio de canales sobre andenes de piedra.

Esta cultura arquitéctica se observa en todas las poblaciones de esta zona del Departamento de Lima; lo que prueba que una misma influencia dominante reinaba en todas las civilizaciones de la costa litoral marítimo del Perú.

Con este ligero estudio de nuestras civilizaciones pre-colombinas en la Nación Peruana hemos querido contribuir a las investigaciones importantísimas que será objeto del ilustre ''XXIII Congreso Internacional de Americanistas'' que se reunirá, Dios mediante, en la Gran Ciudad de New York de Norte América.

LIMA, PERU.

EXCAVATIONS OF ESKIMO THULE CULTURE SITES AT POINT BARROW, ALASKA

By J. Alden Mason

DURING the years 1917 to 1919 Mr. W. B. Van Valin was engaged in collecting specimens and conducting researches in the neighborhood of Point Barrow, Alaska, for the Museum of the University of Pennsylvania. In August, 1918, one of his Eskimo helpers discovered human bones protruding from one of a group of mounds near the present settlement of Utkiavik, about eight miles southwest of Barrow. These mounds had always been presumed by the natives to be of natural origin. Excavation revealed that each of the six mounds contained a structure, the group apparently forming a settlement, although the present Eskimo have no tradition of the former existence of any village at this site. These six buildings lay on both sides of a small stream and on the tundra about a thousand yards back from the beach. The following year three similar houses were discovered at Nunavah, about four miles southwest of the former group.

According to Mr. Van Valin's notes, the sizes and shapes of the "houses" varied greatly, ranging between 45 by 18, 15 by 10, 15 by 15 ft.; apparently all were rectangular. These structures were all built of driftwood. The walls were made of wood placed vertically and apparently were originally of two to three feet in height. The roofs were formed of parallel logs which reached from the tops of the side walls to the ridge poles. A thick covering of sods was then placed over the roofs and the walls, consisting of two layers of rectangular pieces of tundra, decomposed moss and grass, about two feet long, eighteen inches wide, and six inches thick. In each roof a frame was built for a skylight which was covered with seal or walrus entrails. The bottoms of the largest buildings were from four and a half to five feet below the tops of the mounds (presumably after the roofs had fallen in). No ice-cellars for storing food were discovered, in spite of search.

In these six buildings were found the remains of eighty-three persons, ranging from infancy to senility, an average of fourteen to a house. No evidence of violent death was noted in any case. Most of them were lying on their backs with their feet drawn back and knees erect. Some had their arms down at their sides, others had them folded across their breasts, while some had hands and arms extended at right angles to the body, occasionally both on the same side. With a few exceptions they lay on beds on the earthen floor, these beds being generally composed of moss and ground willows covered with robes of brown bear, polar bear, and musk ox, of which robes there were many. No fur material was found, however, except in association with the bodies and beds. The absence of caribou robes from the bedding was especially noted by Mr. Van Valin, since many of the artifacts were made of caribou bones, and caribou robes are said to be especially suitable bedding. There seemed to be no regularity in the arrangement of the bodies, some lying along the walls and some at right angles to it, some with heads and some with feet to the wall, some facing one wall and some the other. However, in one of the longest houses practically the entire length was occupied by a row of bodies with their heads all in the same general direction. These lay in what were apparently beds, surrounded on all four sides by split wood. Three bodies were found, each of which lay on two hewn boards, each about five feet long, one foot wide, and an inch thick. One child was found lying on two sled runners of a very ancient type.

In one, if not all of the houses, bodies were found at three different levels with nothing apparent in the nature of bunks or supports to sustain this position in life.

The bodies were dressed mainly in *etegies* made of bird or animal skins, eider duck and loon, caribou, seal, polar bear, and fox. Some of the heads were enveloped in the hoods of the *etegies*. Some of the infants were clad in swaddling clothes made of the skin of the polar bear cub. Gray hair was found on only one old woman, that of the others being pure black, irrespective of age.

Beside each body, male or female, lay the implements and possessions of his daily life. Some held wooden drinking tubes in their hands and others blubber-sticks. Near by lay baleen vessels which, when thawed out, contained small pieces of seal flipper and blubber. One corpse had a three-pronged fish spear in its hand.

The discovery of such a large amount of skeletal material under such conditions constituted a most important find. This year (1928) the material was transferred from the Museum of the University of Pennsylvania to the Wistar Institute of Anatomy where it was examined and measured by Doctor Aleš Hrdlička. His conclusions from this study form a most important contribution to arctic archaeology, since he states that the physical type of the bodies found in the Barrow structures resembles to the point of identity that of the present Eskimo of southern Greenland and Labrador, and differs correspondingly from that of the west coast.

This discovery of numerous human remains in the ruins of "houses" of considerable age built of driftwood is, so far as I have been able to learn, absolutely unique and therefore of the greatest interest. The discoverer, Mr. Van Valin, came to the conclusion that the structures were the dwelling houses of a village, the inhabitants of which had perished in their beds as a result of starvation, cold, epidemic, or possibly poison. The hypothesis that the buildings were charnel houses he rejects on the following grounds:—1, in view of the great scarcity of driftwood, none would have been wasted upon the dead; 2, this form of disposal of the dead is unknown in the Eskimo area, the custom of the Eskimo being to place the dead upon a raised cache; 3, the bodies were found without regularity of position.

To these objections may be opposed the facts that the great number of bodies found, an average of fourteen to a house, is certainly far above the norm for a dwelling house, and that, in at least one instance, the bodies were found in three layers with no evidence of the former existence of raised bunks. Van Valin's objections (1) and (2) may be eliminated on the ground that natural conditions and the customs of the inhabitants may have been quite different at that time. The grouping of the personal possessions of the deceased around the corpse is also indicative of intentional disposal. The absence of any sinew or skin lashings, also noted by Van Valin, can be as well explained as due to the acts of rodents or other animals, as by the theory of the starvation of the inhabitants. Upon the whole, it would seem most probable that the structures were charnel houses. They may originally have been dwelling houses employed for this purpose, either as a matter of custom or owing to a sudden exigency, but even this hypothesis would not ordinarily be consonant with primitive psychology and practice.

The absence of certain features which are very characteristic of modern Eskimo culture in Alaska was especially noted by Mr. Van Valin. Neither labrets nor any evidence of their use was found, no tobacco pipes or accessories, no trace of iron, copper, or any other metal, no lamps or vessels of soapstone, no nets, net needles, or mesh sticks, no fish-hooks, and, strange to say, no trace of the dog or any part of dog harness.

The absence of any single element of culture from a given site cannot, of course, be accepted as evidence of the absence of that element in the culture represented, but the cumulative evidence from other sites of similar or related cultures, can establish the probability of such an absence. Since it has long been believed, upon archaeological and linguistic evidence, that the use of tobacco, fishing nets, and iron is of relatively late introduction, the non-discovery of these objects may be taken as corroborative evidence. In his excavations at Wales, Jenness noted the absence of iron, tobacco pipes, fishing nets, and soapstone, but the presence of labrets. Fish-hooks and dog harness equipment are not mentioned by Jenness, but presumably the latter were found, the former not. Mathiassen, in his digest of the typical forms of the Thule culture, does not list labrets, tobacco pipes, metal, nets or netting implements or fish-hooks. Some of these elements, however, such as fish-hooks and metal, were known in places, but were rare. The fishing net is uncertain, but dog harness gear and soapstone vessels are typical.

The absence of any evidence of dog culture at Barrow may be disregarded as being purely accidental. The dog is an indispensable element of arctic culture in America and no other instance of such a lack has ever been reported. Except, then, for sporadic and untypical finds of metal and fish-hooks in the Eastern Thule area, all the striking elements of modern Eskimo culture which were lacking at Barrow were missing also at Wales and in the Hudson Bay region with the exception of two: labrets which were found at Wales and soapstone found in the eastern Thule region.

The labret is certainly an object of peculiarly Alaskan character, unknown in the eastern Arctic in former times as it is today, and not an element of the Thule culture. Its present but not early use at Barrow must be ascribed to a relatively late influence from the west. Its discovery in the Thule culture at Wales indicates merely that it is of greater age than has heretofore been believed. Probably we may look to southern Alaska for the source of this ornament and possibly even further south to Mexico. Should this latter connection be proved, it may supply one element of a comparative time scale by which to date the Thule culture at Wales, and possibly throughout the Arctic.

The employment of soapstone vessels and lamps is considered by Mathiassen as characteristic of the Thule culture, but obviously its use would be conditioned by the natural occurrence of this material. Evidently none exists near Barrow, for the modern Eskimo here secure their soapstone vessels by trade from the Eskimo further east. Apparently throughout Alaska pottery took the place of soapstone, which was rare or missing in Alaskan Thule sites, just as pottery was rare in eastern Thule sites.

Pottery, which has until recently been considered of relatively recent introduction in the Eskimo region, was found at Barrow in large quantities. Jenness also found it abundant in the old mounds at Wales, and Mathiassen reports a few fragments from the eastern Thule region, where it was apparently known, but rare.

Vessels of baleen are common in the Barrow collections; that and wood, ivory, bone, pottery, and stone were the materials most utilized. Another peculiarity noted by Mr. Van Valin was that the in-soles of boots were made of fine, long, thin wood shavings instead of the duck skins, baleen shavings, and rope fibers utilized by the modern Eskimo.

ARTIFACTS

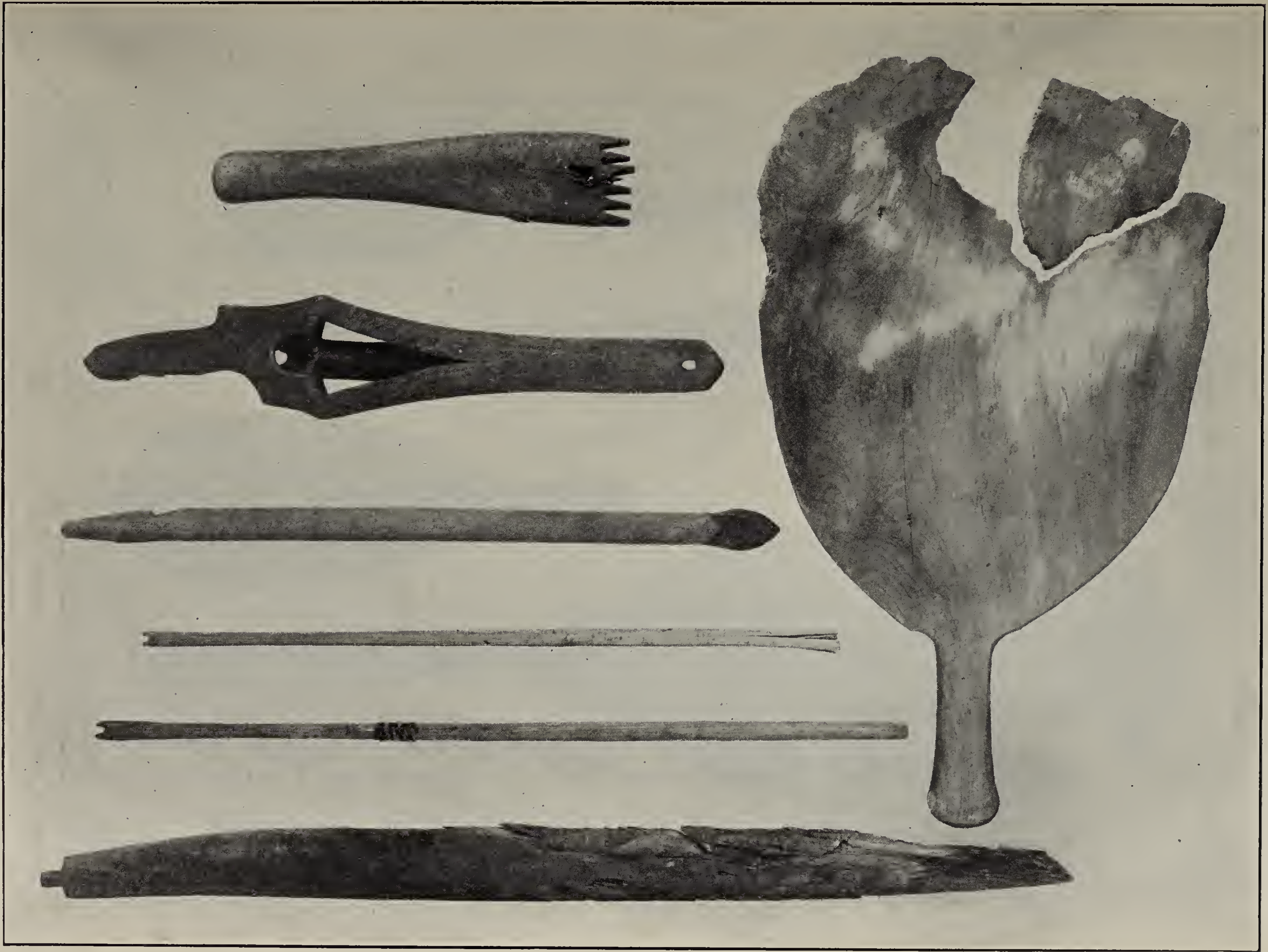
The artifacts secured by the excavations, as identified and listed by Doctor Mathiassen, are as follows:—

Representative Forms of Thule Culture. Harpoon heads of Thule type with open shaft socket and bi- and trifurcated spur, with or without end blade and side blades of flint; slender harpoon foreshafts with small side hole; arrowheads with barbs and conical tang, with and without end blade; bola balls; side prongs for bird darts; knife handles made of two elongated pieces of ivory lashed together, with grooves in one or both ends; ulu handles of wood, without tang; ulu blades of slate; "winged" needle cases; round earthenware pots; wooden doll.

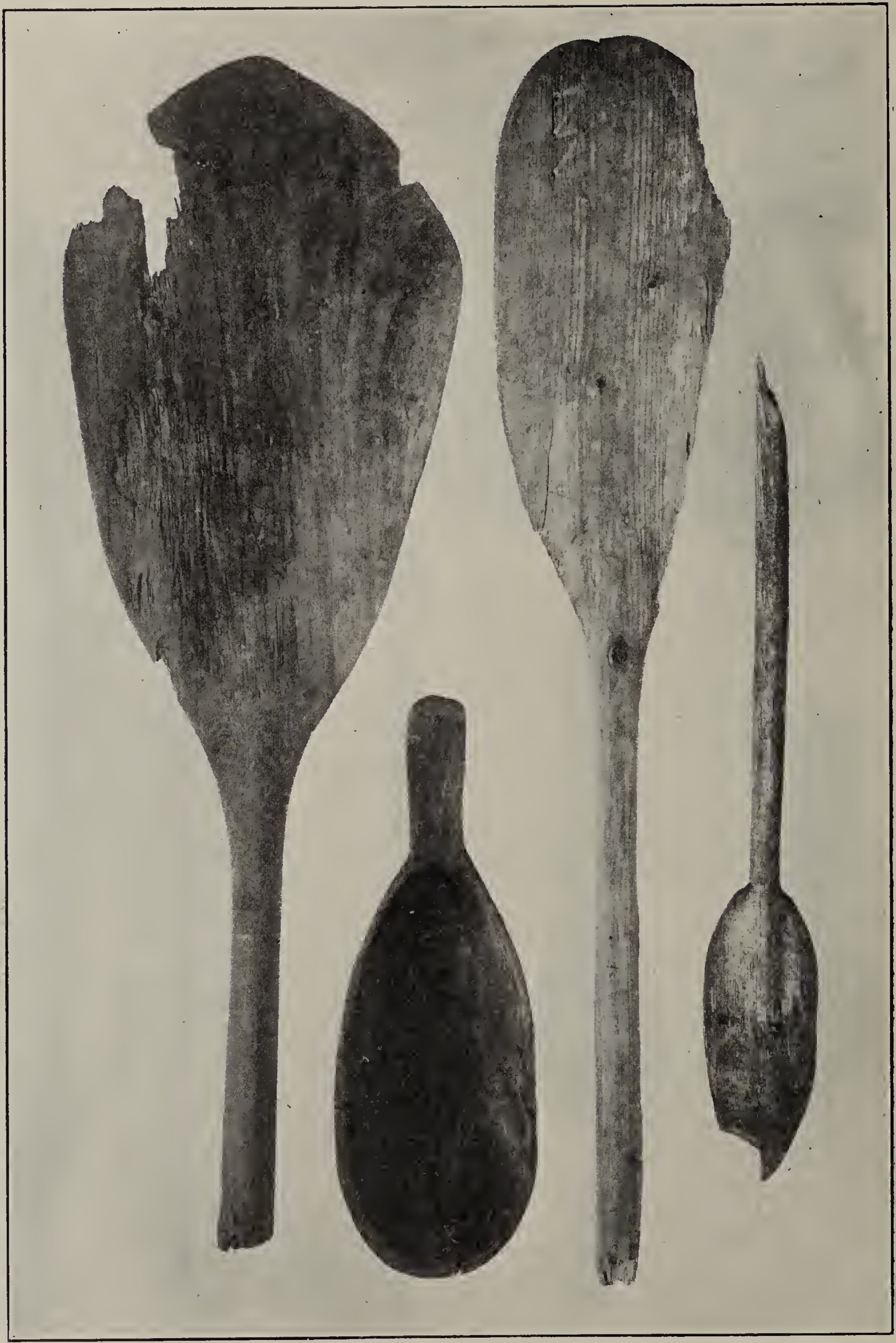
Less Common Artifacts of Thule Culture. Seal scratchers; pendants of ivory.

Artifacts occurring in association with, but not characteristic of, Thule Culture. Harpoon heads with closed socket and blade at right angles to the line channel, one ornamented with curved lines; finger rests, one carved in the form of a human head; wound plugs; wooden bows; arrow shafts; leister prongs; knife handle of wood with end socket for flint blade; whetstones; adze heads of antler with jade and slate blades; drill bows and drill mouthpieces made of caribou astragalus; scraper blades of flint with convex edge; oval wooden bowls, hollowed out; oval baleen bowls; wooden spoons and dippers; snow goggles.

Other Objects not placed by Mathiassen in either of the Three Groups. Small lances with wooden shaft and flint blade; loose lance heads of antler with conical rear end and small side hole; spear-thrower; bracer; bowls of antler and mountain sheep horn, for ice-scoops; kayak paddle with one blade; blade of umiak paddle; flakes of walrus rib (?); snow shovels; double-edged knife blades of slate; hook of ivory, probably for a thimble-holder; round flat pottery lamps; "men" for games, made of antler.



WOODEN OBJECTS FROM THULE CULTURE SITES AT POINT BARROW, ALASKA: BOW, ARROWSHAFTS, SPEAR, SPEAR-THROWER, SEAL SCRATCHER, AND SNOW SHOVEL



WOODEN OBJECTS FROM THULE CULTURE SITES AT POINT BARROW, ALASKA: UMIAK AND KAYAK PADDLES, SMALL PADDLE, AND LADLE

Most of these objects, even those in the last group which are not mentioned by Doctor Mathiassen in his summary of the characteristics of the Thule culture, have been found in other Thule sites and differ little from those described and figured by him. Space does not permit any extensive commentary upon these artifacts. A few of the more unusual and better-preserved specimens are shown on the accompanying plates. The collection as a whole is noteworthy on account of the excellent and unusual state of preservation of the wooden objects.

The spear-thrower shown on Plate I is especially remarkable and has been shown and described in greater detail in *The Museum Journal*.[1] The ivory and bone ornaments and decorated objects shown on Pl. IV, are of unusual interest. Fig. 1 is of uncertain use, Figs. 2 and 4 are probably ear pendants. The object in the center, Fig. 3, is presumably a finger rest. The hook, Fig. 5, was probably used for a thimble holder; it is one of the few specimens decorated with incised lines. The three needle cases, Figs. 6, 7, 8, are of considerable interest, being of the "winged" type characteristic of the Thule culture. The first two are decorated with incised lines which are reproduced more clearly in the text figure (Fig. 1). The incised line decoration of one of them appears to delineate the human figure, which Mathiassen believes to be the prototype of the conventionalized modern "winged" needle case.

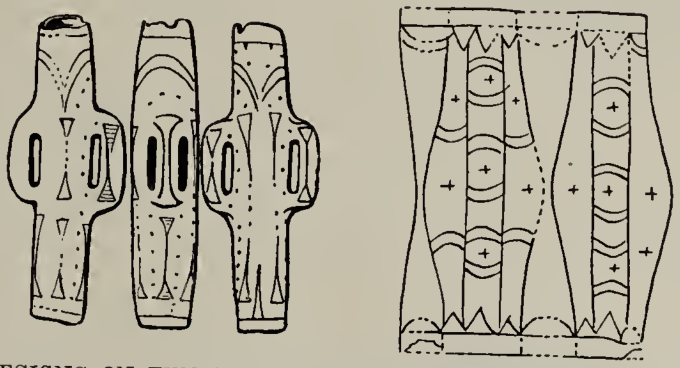


FIG. 1.—INCISED DESIGNS ON TWO NEEDLE CASES FROM THULE CULTURE SITES AT POINT BARROW, ALASKA

HARPOON HEADS

Throughout the Arctic area, but especially in Alaska, many if not most of the objects in use today are almost indistinguishable from those made in former days, but one diagnostic criterion is found in the sealing harpoon which has undergone some uniform changes. Harpoons with open sockets were universal at an earlier cultural stage, only those with closed sockets are made today.

Harpoon heads have been studied and classified in detail by Mathiassen who distinguishes four main groups: thin, with the line hole running directly from side to side; and flat, with the line hole having a curved path, both openings being on the upper side. Each of these may be found with open and with closed sockets. The first of these groups, with open sockets and a transverse line hole, are termed by Mathiassen the "Thule types" and are considered as being characteristic of the ancient Thule culture. This group is subdivided further into ten subtypes, some common and typical, some rare, and some unknown but theoretical. All but two of the thirty-one harpoon heads found at Barrow fall in this group.

---

[1] Vol. 19, no. 3, Philadelphia, September, 1928.

Jenness decided, from his excavations at Wales, that the last of the open-socket types was a form in which the lashing thong was secured through several small drilled holes, and that this was preceded by a type in which slots were employed for the thong. Earliest of all, in his opinion, was a type with "multiple terminal barbs"[2] and insct lateral blades of flint. Mathiassen, basing his classification on central and eastern, rather than on Alaskan types, does not consider these criteria as important, but notes them as occurring in Alaska.[3]

In the Van Valin collections from Point Barrow no harpoon heads with drilled holes for the attachment of the thong were found, slots being employed in every case, and in the majority of the specimens the terminal spur is bifurcated, trifurcated, or even quadrifurcated. If then the developments of culture were identical in the Barrow and the Bering Strait region, an assumption by no means certain, the culture of the Van Valin finds at Barrow should be correlated with Jenness's oldest type. While one of the harpoon heads and several other artifacts are embellished with a decoration of fine incised lines, the quantity and quality of this work is by no means comparable to that of the objects figured by Jenness.

The largest harpoon head found at Barrow was made with a closed socket (Pl. V, Fig. 1). It does not greatly exceed the others in size, but in addition to the closed socket, to which a small rectangular horizontal slot leads, the spur is not bifurcated, the head is decorated with fine incised lines, and the point of thin slate lies at right angles to the line hole, all of these being unusual or unique features. The line hole is circular and apparently drilled, and on one edge are three small short grooves or notches which apparently represent the small lateral flint blades found on certain other types. It must therefore be of more recent, or at any rate not of greater, age than the type with these lateral blades.

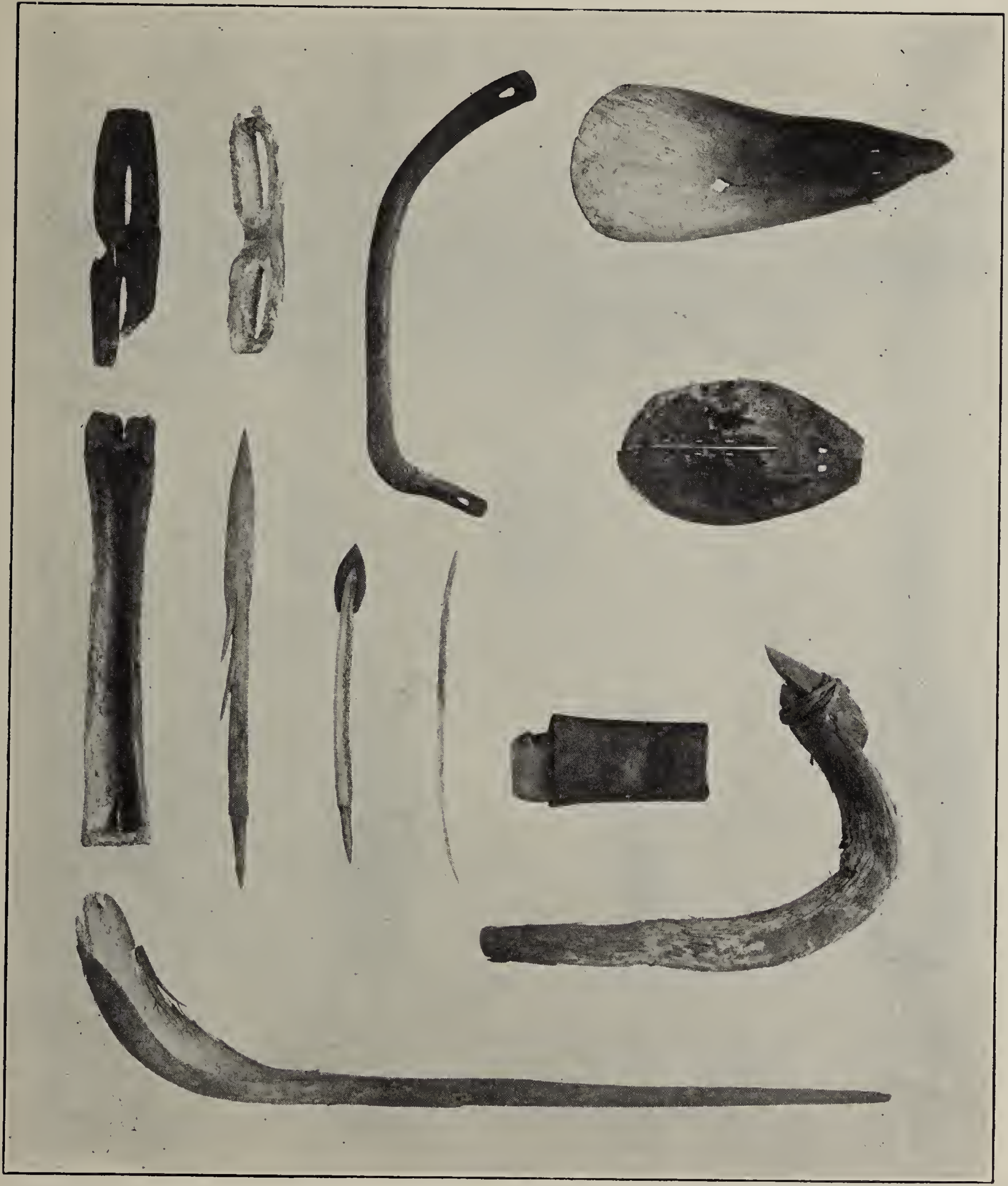
Only one other head with closed socket is found among the harpoon heads in this collection (Pl. V, Fig. 2). This resembles the preceding specimen in every important point except that it is slightly smaller, is undecorated, and has no slot or lateral notches. It has, however, the same unusual characteristics of unbifurcated spur and the blade at right angles to the line hole. The central line hole is circular; the blade is missing.

All the harpoon heads have central holes for the line. In most instances these are circular and apparently drilled, but, in other cases, triangular or irregular and apparently cut out. In all cases but three, the two noted above and one other, the lashing was attached through one or two vertical slots. In this exceptional instance (Pl. V, Fig. 10), a depressed groove for lashing completely surrounds the head which, in other respects, shows no variation from the norm. The same depressed groove is found on all the other open-socket specimens, but in less complete form. At the other extreme is found the type with two vertical

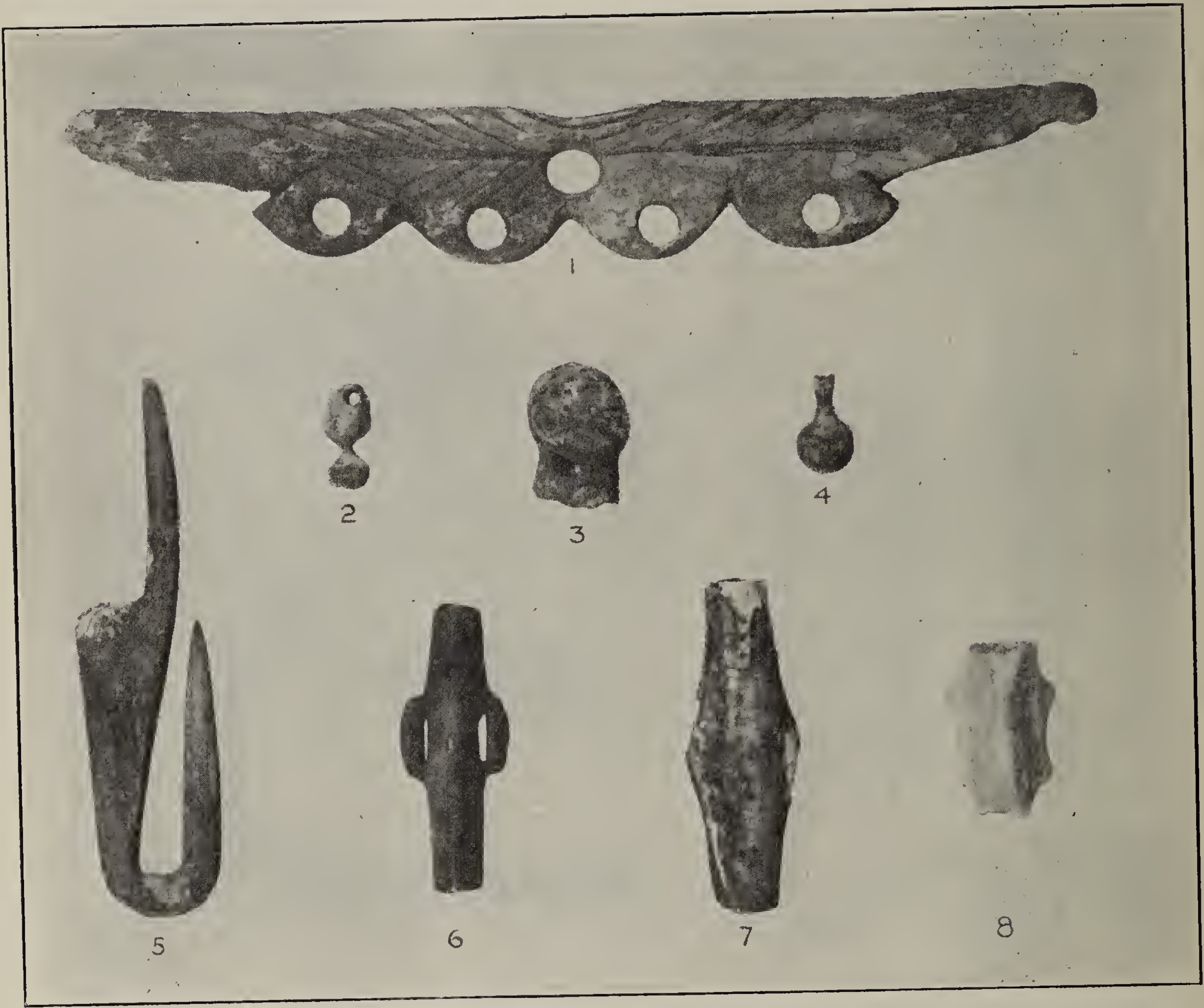
---

[2] Jenness here refers to the ivory points on the rear or proximal end. Mathiassen employs the less equivocal term "spur" which has been here adopted.

[3] Since this paper was written a new and important article entitled "Some Specimens from the Bering Sea Culture" has been published by Doctor Mathiassen in *Indian Notes, Museum of the American Indian, Heye Foundation*, vol. 6, no. 1, January, 1929, pp. 33–56. In it he considers especially the harpoon heads with furcated terminal spurs and lateral blades of flint which are characteristic of certain ancient sites in Alaska, but not of those of the central region. These he terms the "Birnirk type."



OBJECTS OF IVORY, BONE, HORN, ANTLER, BALEEN, AND STONE FROM THULE CULTURE SITES AT POINT BARROW, ALASKA: ICE SCOOPS, ADZES, SPOON, ARROW AND LANCE HEADS, SCRAPER, SNOW GOGGLES, AND HANDLE FOR BOWDRILL (?)



IVORY AND BONE OBJECTS FROM THULE CULTURE SITES AT POINT BARROW, ALASKA: PENDANTS, FINGER REST, HOOK, NEEDLE CASES, AND UNIDENTIFIED OBJECT slots through which the lashing thong passed, the thong being visible and resting in the depressed groove only in the vicinity of the open socket (Pl. V, Figs. 3, 4, 5, 7, 8, 13). Intermediate between these is a type with one eccentric slot, the depressed groove encircling the opposite side (Pl. V, Figs. 6, 9, 11, 12). Eleven of the specimens are of the single, seventeen of the double-slotted type. In all of the five houses from which harpoon heads were collected, those of both double and single-slotted types were found and in relative equality of numbers; the only preponderance was in Nunavah No. 1, with seven double and two single-slotted types. Similarly both single and double-slotted heads were found with all three main types, also in relative numerical equality, except in the case of the heads with terminal stone inset blades, in which ten double-slotted types were found as against one of the single-slot type. Apparently, therefore, the three types of thong lashing were contemporaneous, or practically so. The houses at Nunavah display a slight differentiation from those at Utkiavik, the harpoon heads from the former possessing only circular line holes, and a preponderance of double-slotted types. From here also came the larger closed-socket head and other unique specimens. The single specimen without slot was found in one of the houses at Utkiavik, as was the smaller closed-socket head.

An empirical judgment would probably consider irregular line holes and encircling thong grooves as cultural predecessors of circular drilled line holes and double slots. On these grounds whatever chronological difference there may be would favor a more recent period for the houses at Nunavah.

The three types of harpoon heads found at Barrow are: those with terminal stone blades, generally of slate (Pl. V, Figs. 1–7), those with a large barb, cut out of the ivory (Pl. V, Figs. 10–13); those with neither barb nor inserted terminal blade (Pl. V, Figs. 8, 9). These correspond to Mathiassen's types A 1 c, A 1 b and A 1 a. His type A 1 d, with both barbs and inserted blades, which completes the list of Thule types, was not found at Barrow. Within these groups, subtypes are distinguished. In A 1 c, with inserted terminal blade but without barbs, distinction is made between those with the blade parallel to the line hole (Pl. V, Figs. 4–7), and those with the blade at right angles to it (Pl. V, Figs. 1–3). Only one of the latter type (excepting the two closed-socket specimens) was found at Barrow, from Nunavah No. 1. It therefore shares with other Nunavah specimens the presumption of relative youth. Ten of the other type were found.

All of the thirteen barbed heads are of one of the three possible types distinguished by Mathiassen, all having a single large barb on one side. No specimen with two barbs, either on opposite sides or on the same side, was found. In eleven of these thirteen specimens small blades of chips of flint are set in the lateral edges (Pl. V, Figs. 10, 12, 13); in the other two cases the deep slot for the insertion of the blade is replaced by a slight ornamental notch (Pl. V, Fig. 11). This latter feature would naturally be taken as an evidence of more recent age, but both of these specimens possess but one thong slot. They are very similar, one, with a circular line hole, coming from Nunavah No. 3, the other, with an irregular line hole, from Utkiavik No. 2. Mathiassen considers this to be a minor variation of his type with two opposite barbs, one barb being replaced by the flint chip; I cannot agree with this classification and prefer to consider it a one-barbed type. The lateral blades are, of course, always on the opposite side from the ivory barb which may be either on the right or the left side, but they are always on the same side as the proximal spur.

The harpoon heads without either inserted terminal blades or barbs invariably have lateral inset blades of flint chips, in two specimens on one side only. One of these latter (Pl. V, Fig. 8), from Utkiavik No. 5, is very unusual in that the plane of the ivory point and of the lateral flint chip is parallel to the line hole; in the other four examples they are at right angles to it (Pl. V, Fig. 9).

Lateral blades are never found in the type with terminal stone blades, but the head is generally constricted at this point, and, in three cases in addition to the large decorated harpoon head, slight ornamental depressions are substituted for the lateral blades. All of these three have double slots, circular line holes and single or, at the most, bifurcated proximal spurs. All of these features the writer believes to be relatively late. One of the four was found in Utkiavik No. 2, the others in Nunavah No. 1.

The proximal spurs vary greatly in character, ranging from one to four points. These points are, in almost every case, asymmetrical, a characteristic of Barrow noted by Jenness, but two of them with four points each are symmetrical after the Wales pattern (Pl. V, Fig. 7). These quadrifurcated specimens come from Nunavah.

In attempting a correlation of the various features to ascertain if they throw any light on the question of temporal relations, few definite points could be deduced. Line holes of irregular shape were found only at Utkiavik together with circular holes, while only the latter type occurred at Nunavah. The sole specimen with no thong slot came from Utkiavik. At both places heads with two slots are in greater number than those with a single slot, but the proportion is greater at Nunavah. Four of the five specimens with ornamental lateral notches replacing the lateral flint blades came from Nunavah.

The terminal spur ocurs in the following proportions: eight single, fifteen bifurcated, six trifurcated, and two quadrifurcated. Four of the eight single spur, five of the fifteen bifurcated, two of the six trifurcated and both of the quadrifurcated specimens came from Nunavah, the entire proportion being thirteen from Nunavah to eighteen from Utkiavik. The preponderance of single and four-pointed heads at Nunavah is therefore indicated. On the hypothesis that circular drilled line holes, double thong slots, ornamental lateral notches, and unforked terminal spurs are later than irregular cut line holes, single thong slots, lateral blades and furcated terminal spurs, the data on each count indicate greater age for the Utkiavik group, the two quadrifurcated heads from Nunavah introducing the main disturbing element.

The correlation of these elements in the various specimens also produces few definite results but some interesting tendencies. Round line holes prevail with double slots, fourteen out of twenty; irregular line holes with single slots, four out of seven. The specimen without slot, however, has a circular line hole. All of the single spur and both of the quadrifurcated spur types possess circular holes, irregular holed specimens being almost all bifurcated. Four of the five specimens with lateral grooves also possess circular holes.

Double slot types possess mainly circular line holes, fourteen out of seventeen, the preference for round holes being less in the single slot type, six out of ten. Lateral notches are equally distributed between the two slot types. The single slot types possess almost exclusively bifurcated spurs, nine out of ten, while in the double slot type, bifurcated spurs are in the minority, seven out of seventeen.

Lateral notches are generally associated with circular line holes. Although only five specimens possess lateral notches as against sixteen with lateral blades, three of the former, none of the latter, are of the single-spur type. The other two notched types are bifurcated, while of the sixteen specimens with lateral blades, twelve are bifurcated and four trifurcated.

These data are by no means unequivocal, but tend, on the whole, to uphold the empirical assumption of the correlation of circular drilled line holes, double slots, lateral notches, and unforked terminal spurs. No direct evidence on the relative ages of these and of their alternative features is available, but the obvious assumption is that they are later and that consequently the structures at Nunavah, where they occur in greater proportion, are on the whole later than those at Utkiavik.

Conclusions

The archaeology and the physical anthropology of the Arctic regions have always suffered from the same neglect and lack of care. Not only have wide stretches of territory been almost unknown until recently or even remain unknown at present, but most of whatever collecting has been done has been uncritical. Measurements on, and collections from, the living and those from recent graves have not usually been distinguished from those from ancient Thule culture graves, and frequently those from several widely separated localities have not been differentiated. The correlations of culture and physical type thus present a problem of no facile solution. More careful field-work with segregation of material is urgently required for the solving of the problems of arctic archaeology.

The researches of Mathiassen point to the conclusions that the Thule culture was once originally widespread in a relatively homogeneous form throughout most of Arctic America. Granted its pristine homogeneity everywhere, naturally diversions soon began to occur, and finally the culture was overwhelmed by a wave of the present Eskimo, a people by no means alien to the Thule. In places the Thule culture was completely submerged; in others, slightly or greatly altered. These blends in various proportions, together with their later mutual interplays and the influences of foreign Asiatic, Indian, and European traits have, so the tenable theory holds, produced the many phases of present Eskimo culture. The legends of the Eskimo referring to the Tunit, an older people expelled or assimilated by them, obviously support this hypothesis, and it is significant that Tunit legends are wanting in Alaska.

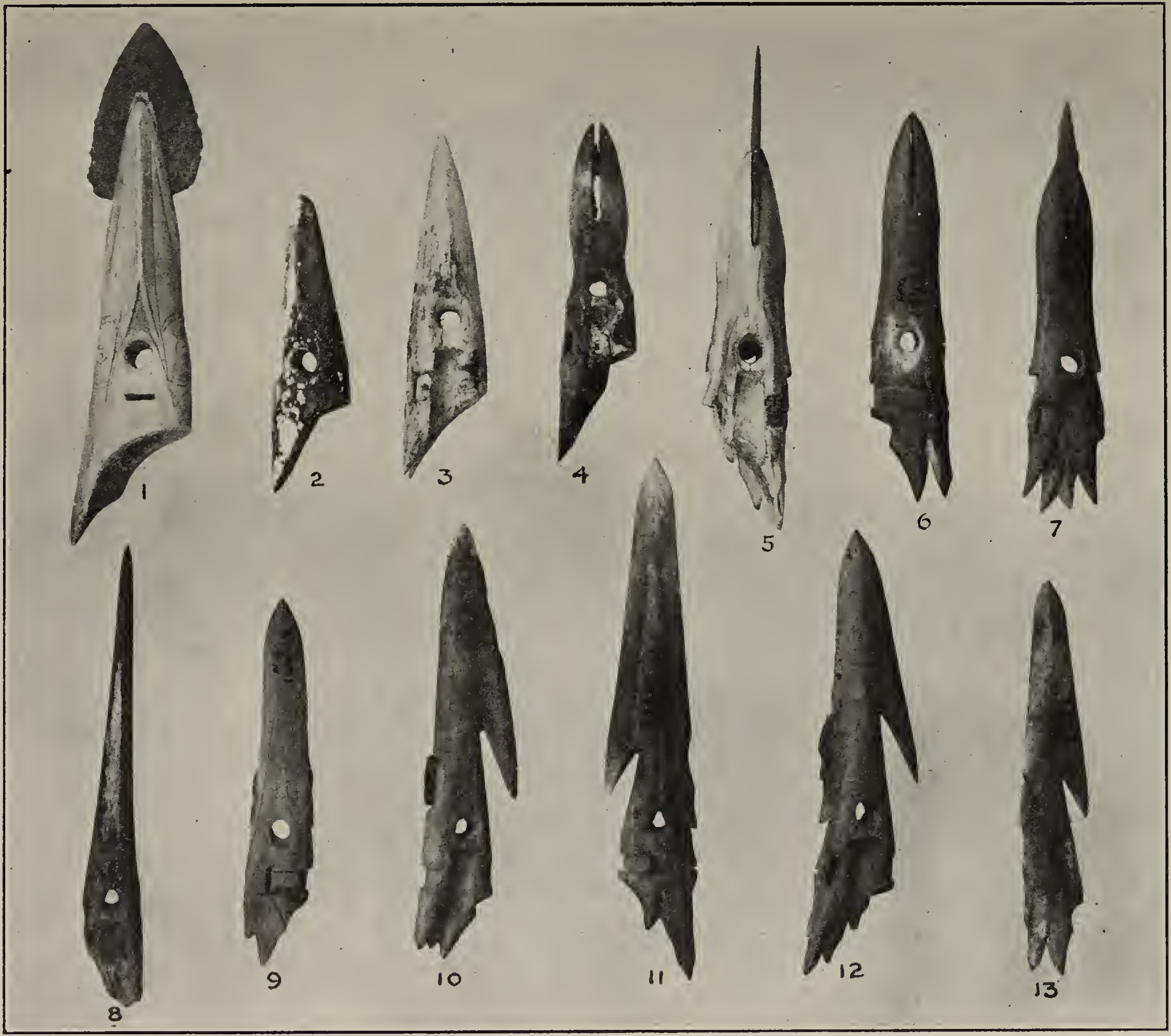
It is apparently in Alaska, and especially in the neighborhood of Point Barrow, that the Thule culture has survived with the least change; the present Eskimo of northern Alaska retain more of the traits of the old Thule culture than any other Eskimo group. Next in order come the recently extinct Sadlermiut of Southampton Island and the present Polar Eskimo of Smith Sound, Greenland, both of these presumably being groups which retired to remote localities before the advance of the present Eskimo. The present Eskimo of Baffin Land and of Labrador retain many Thule elements, and after them come the Eskimo of southern and western Greenland. The Central Eskimo investigated by the Fifth Thule Expedition are apparently the group which has departed most widely from the Thule culture and most typically represents modern Eskimo culture. By inference, they represent in purest form the later Eskimo irruption.

The finds at Point Barrow are of the greatest importance in the study of Arctic archaeology since they represent, so far as I am aware, the first reported discovery of human remains in conjunction with cultural objects of Thule aspect in Alaska. It may now be stated that the bearers of the Thule culture in Alaska were of a definite physical type and, according to Doctor Hrdlička, this type is identical with that of the present Eskimo of southern Greenland and Labrador, and different from that of the modern Alaskan Eskimo.

The history of the Thule culture and its relations to present Eskimo culture can not be determined satisfactorily without correlating the indications of material culture and of physical anthropology. Mathiassen and Birket-Smith in their important researches have formed a very tenable hypothesis regarding these relations, but the testimony of somatology is required in order to prove this. A considerable body of skeletal material associated with artifacts of the Thule culture was collected by the Thule expeditions in old sites to the west of Hudson Bay. The publication of this material is promised and will be of the greatest importance.

Granting the hypothesis that the Eskimo of the Thule culture were of a homogeneous physical type, the Eskimo of the later irruption of a variant, though doubtless relatively similar type, we should expect to find the physical type of the Thule culture practically identical in the old mounds at Barrow and in the ancient graves excavated by Mathiassen in the central region. It should closely resemble the physical type of the present population of northern Alaska, the late Sadlermiut of Southampton Island, and the present Polar Eskimo of Smith Sound. There should then be a gradation leading through the present Eskimo of Baffin Land, Labrador, and Greenland to the Central Eskimo who should represent the physical type most variant from that of the Thule culture. Unfortunately, if truth ever can be unfortunate, the facts are at wide variance with this theory.

The physical type of the Thule culture in the Central Eskimo region has yet to be announced, but that of the Barrow mounds is, as has been before stated, like that of the modern Eskimo of Labrador and southern Greenland and quite different from that of the modern Eskimo of northern Alaska. Doctor Hrdlička has not yet published the results of his investigation, but the crania are extremely dolichocephalic with an average cranial index of about 72 whereas a tendency towards brachycephaly characterizes the Alaska Eskimo of today. Measurements of the recently extinct Sadlermiut are unfortunately wanting, but Hrdlička has published some measurements of crania from graves, the average of the cranial indices being 74.5. Presumably these are recent but, as in the case of most Eskimo skeletal material, the corresponding culture is uncertain.


1
2
3
4
5
6
7
8
9
10
11
12
13

HARPOON HEADS FROM THULE CULTURE SITES AT POINT BARROW, ALASKA

Measurements from the Polar Eskimo of Smith Sound are also available. Hrdlička's measurements on the living, giving cephalic indices ranging from 73 to 81 with an average of 77.5, he finds difficult to reconcile with the earlier and larger series of cranial measurements of Bessels which reveal an average index of 71.4. The obvious explanation of this is that Bessels' material probably came from earlier graves, presumably of Thule culture. Hrdlička notes the close resemblance between the crania from the Polar Eskimo and from Southampton Island, both probably modern and tending towards mesocephaly, their difference from the crania of the modern Eskimo of Greenland and Labrador where marked dolichocephaly predominates, and their resemblance to the modern Eskimo of Alaska who are quite mesocephalic. A cranium from Frozen Straits near Southampton Island with an index of 77.8 also belongs to this type, while one from Melville Peninsula, specifically stated by the present Eskimo to have belonged to an earlier race, is very dolichocephalic with an index of 70 and is compared by Hrdlička to the present Eskimo of Greenland and Labrador.

The evidence of the Barrow crania, the ancient cranium from Melville Peninsula, and Bessel's crania from Smith Sound, therefore, indicates that the Thule culture crania were uniformly dolichocephalic and we may expect the crania gathered by the Danish Thule expeditions to substantiate this point.

The modern Eskimo, however, present a puzzling problem. In northern Alaska where, more than elsewhere, Thule customs prevail to the present, the type displays a marked tendency towards brachycephaly, setting off the Alaskan Eskimo from the rest of their race who are but slightly differentiated. The recent Sadlermiut and the Polar Eskimo who also preserve many Thule traits of culture are, properly enough, very similar in physical type but agree with the Central and Copper Eskimo in being slightly mesocephalic, and the Eskimo of Greenland and Labrador who show few cultural resemblances to the Thule, are those who possess in strongest form the Thule physical characteristic of dolichocephaly. The modern Central and Copper Eskimo are mesocephalic.

Although there is little contact today between the Eskimo and Indian of Alaska, the theory of a former mixing between these races is the most tenable hypothesis to explain the mesocephaly of the present Alaskan Eskimo. This theory, however, has been rejected by some authorities. It is claimed by its proponents that the present Point Barrow Eskimo have moved to the coast from further inland within the last half century, the former coast population having disappeared; the inland Eskimo are apparently more brachycephalic than those on the coast. This mixture with the Indian apparently modified the original Thule culture in Alaska less than did the invasion of the modern Eskimo in the central region where both culture and physical type were considerably changed. In southern Greenland and Labrador, however, we find today a physical type practically identical with that of the Thule culture—at any rate as exemplified in Alaska—while the material culture approaches more that of the most typical modern Central Eskimo.

Doubtless much more careful investigation and a re-examination of older data must be made before the problems of the relationship of the ancient Thule and the modern Eskimo cultures are clarified. The solution must answer the puzzling conflict of claims of Alaska and of Labrador; in the former, a relative

References

continuity of culture together with change in physical type; in the latter a change in material culture and legends of a former population together with a continuity of physical type.

A large and fairly exhaustive bibliography is given on pages 204–208 of part II (The Thule Culture and its Position Within the Eskimo Culture) of Therkel Mathiassen's Archaeology of the Central Eskimos, Vol. IV, *Report of the Fifth Thule Expedition, 1921–1924*; The Danish Expedition to Arctic North America in charge of Knud Rasmussen, Ph.D.; Copenhagen, 1927. However, this is concerned entirely with the cultural aspects. An equally full bibliography bearing on physical anthropology may be expected to appear with Vol. III of the same Report. At present the most complete bibliography on this phase is probably to be found in the footnotes to D. Jenness's Part B (Physical Characteristics of the Copper Eskimo) of "The Copper Eskimo," Vol. XII, *Report of the Canadian Arctic Expedition, 1913–1918,* Ottawa, 1923. I confess to having consulted only a few of these.

Among the works not mentioned in either of these, in most cases because of recent publication are:—

Bessels, Emil. Northernmost Inhabitants of the Earth; An Ethnographic Sketch, *American Naturalist,* vol. 18, no. 9, pp. 861–882, September, 1884.

Birket-Smith, Kaj. The Origin of Eskimo Culture, *Proceedings, Twenty-third International Congress of Americanists,* New York, 1929.

The Greenlanders of the Present Day, *Greenland,* vol. 2, pp. 1–207, Copenhagen, 1928.

Dall, W. H. Masks, Labrets and Certain Aboriginal Customs, *Third Annual Report, Bureau of American Ethnology,* Washington, 1884.

Hrdlička, Aleš. Anthropological Work in Alaska. Explorations and Field-Work of the Smithsonian Institution in 1926, *Smithsonian Miscellaneous Collections,* vol. 78, no. 7, pp. 137–158, Washington, 1927.

Migrations from Asia to America and their Traces, *Proceedings, Twenty-third International Congress of Americanists,* New York, 1929.

An Intrusive Eskimo Group near Point Barrow. *id.*

Jenness, D. Archaeological Investigations in Bering Strait, 1926, *Annual Report for 1926, National Museum of Canada,* pp. 71–80, Ottawa, 1928.

Ethnological Problems of Arctic America. *Problems of Polar Research, American Geographical Society Special Publication,* no. 7, pp. 167–175, New York, 1928.

Mason, J. Alden. Some Unusual Spearthrowers of Ancient America, *The Museum Journal,* vol. 19, no. 3, pp. 290–324, Philadelphia, September, 1928.

Mathiassen, Therkel. Material Culture of the Iglulik Eskimos, *Report of the Fifth Thule Expedition, 1921–1924,* vol. 6, no. 1, Copenhagen, 1928.

Norse Ruins in Labrador, *American Anthropologist,* n. s., vol. 30, no. 4, pp. 569–579, 1928.

Some Specimens from the Bering Sea Culture, *Indian Notes, Museum of the American Indian, Heye Foundation,* vol. 6, no. 1, pp. 33–56, New York, 1929.

Notes on Knud Rasmussen's Archaeological Collections from the Western Eskimo, *Proceedings, Twenty-third International Congress of Americanists,* New York, 1929.

Murdoch, John. On the Siberian Origin of some Customs of the Western Eskimos, *American Anthropologist,* vol. 1, pp. 325–336, October, 1888.

Thomsen, Thomas. Eskimo Archaeology, *Greenland,* vol. 2, pp. 271–329, Copenhagen, 1928.

University Museum,
University of Pennsylvania.

NOTES ON KNUD RASMUSSEN'S ARCHAEOLOGICAL COLLECTIONS FROM THE WESTERN ESKIMO

By Therkel Mathiassen

DURING his long journey through the territories of the Western Eskimo in 1924, Doctor Knud Rasmussen did not have time for making extensive archaeological excavations, but he succeeded in securing a number of collections, originating from old Eskimo house sites and graves, throwing some light on the prehistory of these Eskimo. The collections were excavated by Eskimo and white traders or trappers and are thus collected non-systematically; but as the archaeology of this region is very little known, they are none the less of some interest, and this has been much improved by the information Doctor Rasmussen got through the local Eskimo.

What has hitherto been published in Alaskan archaeology is quickly enumerated: In Murdoch's and Nelson's monographs on the Point Barrow and Bering Strait Eskimo old specimens are occasionally mentioned. V. Stefansson[1] excavated considerable collections at Point Barrow and the Cape Parry districts, but only the harpoons and darts have been published by Doctor Clark Wissler.[2] D. Jenness excavated in 1914 on Barter Island,[3] but this large, systematically excavated find has not been published; in 1926 Jenness excavated on Cape Prince of Wales and Diomede Island; his results are as yet only briefly mentioned.[4]

Knud Rasmussen's collections are:—

From Point Atkinson, east of the Mackenzie, 670 specimens, excavated by C. J. Pedersen

From Kitikarjüit at the Mackenzie Delta, 137 specimens, collected by Eskimo; mostly more recent specimens without special interest which will not be further treated here

From Barter Island, 998 specimens, excavated by N. Sörensen

From Point Barrow, 537 specimens, secured through Charles Brower

From Point Hope, 836 specimens, excavated partly by Doctor Rasmussen himself, partly by Eskimo

From East Cape, Siberia, 168 specimens, excavated by Eskimo; in a previous work[5] this collection has received preliminary treatment.

Point Atkinson Collection

The greater part of this collection seems to date from a limited period, not very old, but previous to contact with the white man. In addition there have been found a few specimens differing in age from the main part of the collection. A few more recent specimens have iron blades or are quite new-looking; older, are some harpoon heads of Thule type and a few other specimens, differing in patination from the rest. One of these harpoon heads is seen in Pl. I, Fig. 1.

---

[1] *My Life with the Eskimo.* London, 1913, p. 388.

[2] *Anthropological Papers, American Museum of Natural History,* vol. 14, part 2, 1916.

[3] Mentioned in: Cameron, John, Osteology of the Western and Central Eskimos, *Report of the Canadian Arctic Expedition 1913–18,* vol. XII C Ottawa 1923, p. 50.

[4] Problems of Polar Research, *American Geographical Society Publication No. 7,* New York, 1928, p. 170.

[5] Archaeology of the Central Eskimos, *Report of the Fifth Thule Expedition,* vol. 4, part 2, Copenhagen, 1927, pp. 177–179.

On Pl. I may be seen a number of types, characteristic of this find: Figs. 2–3 are harpoon heads of well-known types from the Western Eskimo, both thin, with closed shaft socket; one of them with a slate blade. Figs. 4–5 on the same plate are slate arrow-heads of exceptional types; Figs. 6–7 are fish-hooks; Fig. 6 is of bone, with notched edges, a feature peculiar to this find; Fig. 7 is of native copper. Fig. 8 is a sinker for a fish-hook of ground slate, also a type peculiar to this find. Figs. 9–10 are flat slate pendants, a type known only from the Naujan find[6] (Thule culture). Fig. 11 is a stone labret; Fig. 12 is a single-edged knife blade of slate; Fig. 13, a richly decorated comb; Fig. 14, a knife handle of antler with groove for an end blade; Fig. 15 is a large, handsome, ground, two-edged knife blade of slate. Fig. 16 is a socket piece for the harpoon shaft, in the fore part, extended to the sides like wings, in the rear, wedge-shaped; this is also a type of implement peculiar to Point Atkinson. Fig. 17 is the antler bowl for an ice-scoop and Fig. 18 is a wooden scraper handle, the end with a decided bend. The two latter types are unknown from the Western Eskimo, but are well known from the Thule culture and the recent Central Eskimo.[7]

Thus we see in this find types, well-known from the Western Eskimo, as well as eastern types, such as the stone pendant, the ice-scoop, and scraper handle, and finally, some peculiar forms, such as the fish-hook, the sinker, and the socket piece. The copper specimens are evidence of contact with the copper territories around Coronation Gulf. The greater part of the collection, however, shows with great certainty that we are in the territory of the Western Eskimo.

Barter Island Collection

Here, too, is a Thule harpoon head, an old, very decayed specimen. A few new specimens were also found; but apart from these, the collection makes a rather uniform impression and seems to date from a rather short period. Slate blades for harpoons, men's and women's knives, are predominant in the find. Pl. II shows a few characteristic types: Fig. 1 is a harpoon head of a rather late, slightly flat Western type. Fig. 2 is a ulu handle (woman's knife) of an old shape known from the Thule culture. A blunt arrow-head for birds may be seen in Fig. 3. Fig. 4 is a fish-hook of peculiar form. Fig. 5 is the handle of a bone dagger. Fig. 6 is the socket piece for a harpoon shaft, with the fore-part thick and round. Fig. 7 is the point of a bladder-dart of an old type, also known from Point Barrow. Fig. 8 is a slender harpoon foreshaft with a hole at the side, also an old type, known from the Thule culture.[8] Fig. 9 is an arrow-head with conical tang and owner's mark at the same place as in the Malerualik find from King Williams Land.[9] Fig. 10 is a snow knife of whalebone, broad, with one shoulder, a type unknown from the Western Eskimo, but well known in the Thule culture.[10] Fig. 11 is a knife handle with a very

---

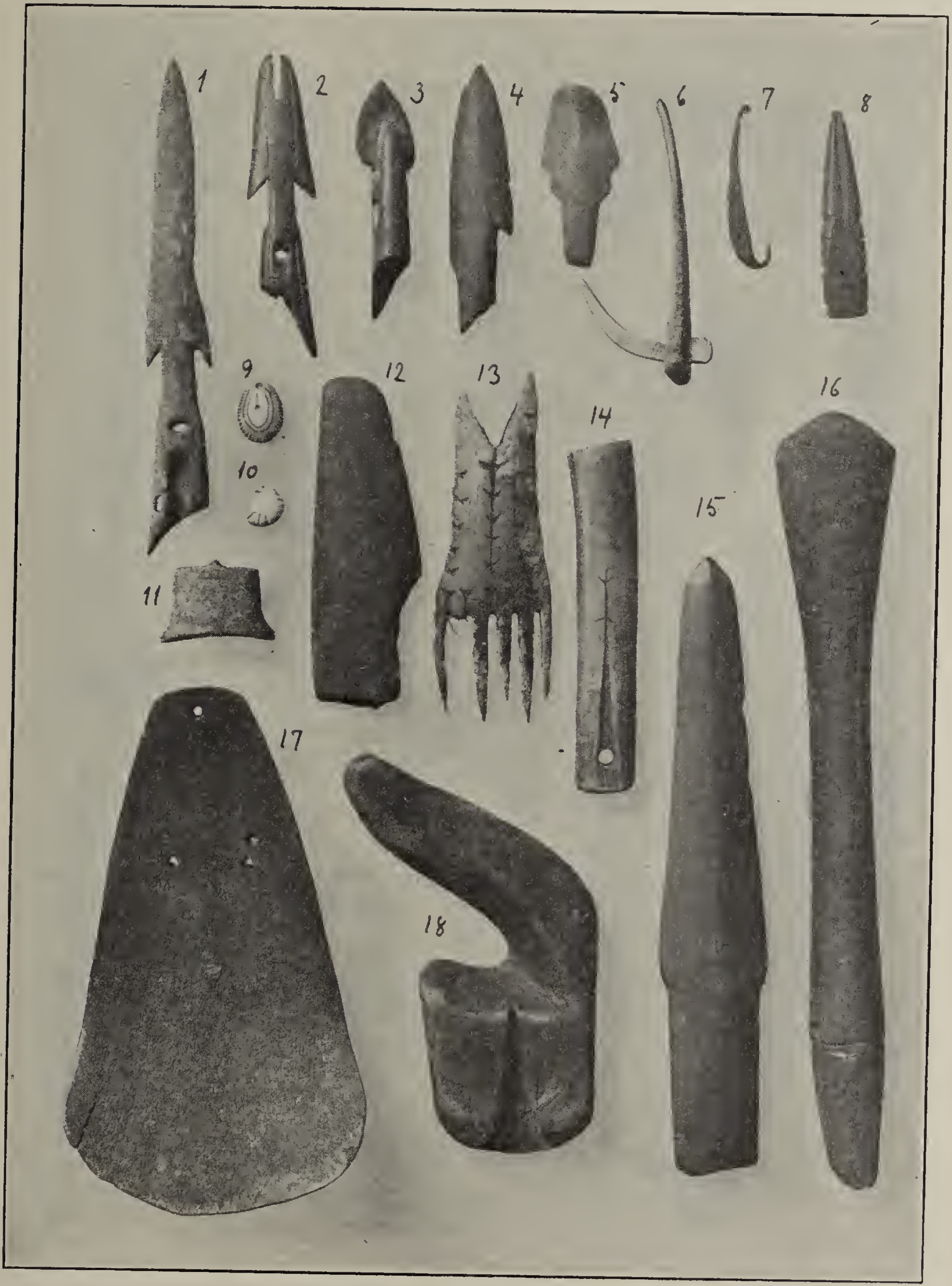
[6] Archaeology of the Central Eskimos, *ibid.*, vol. 1, Pl. 31.

[7] *Ibid.*, Pl. 25, Naujan, and Pl. 83–3, Malerualik.

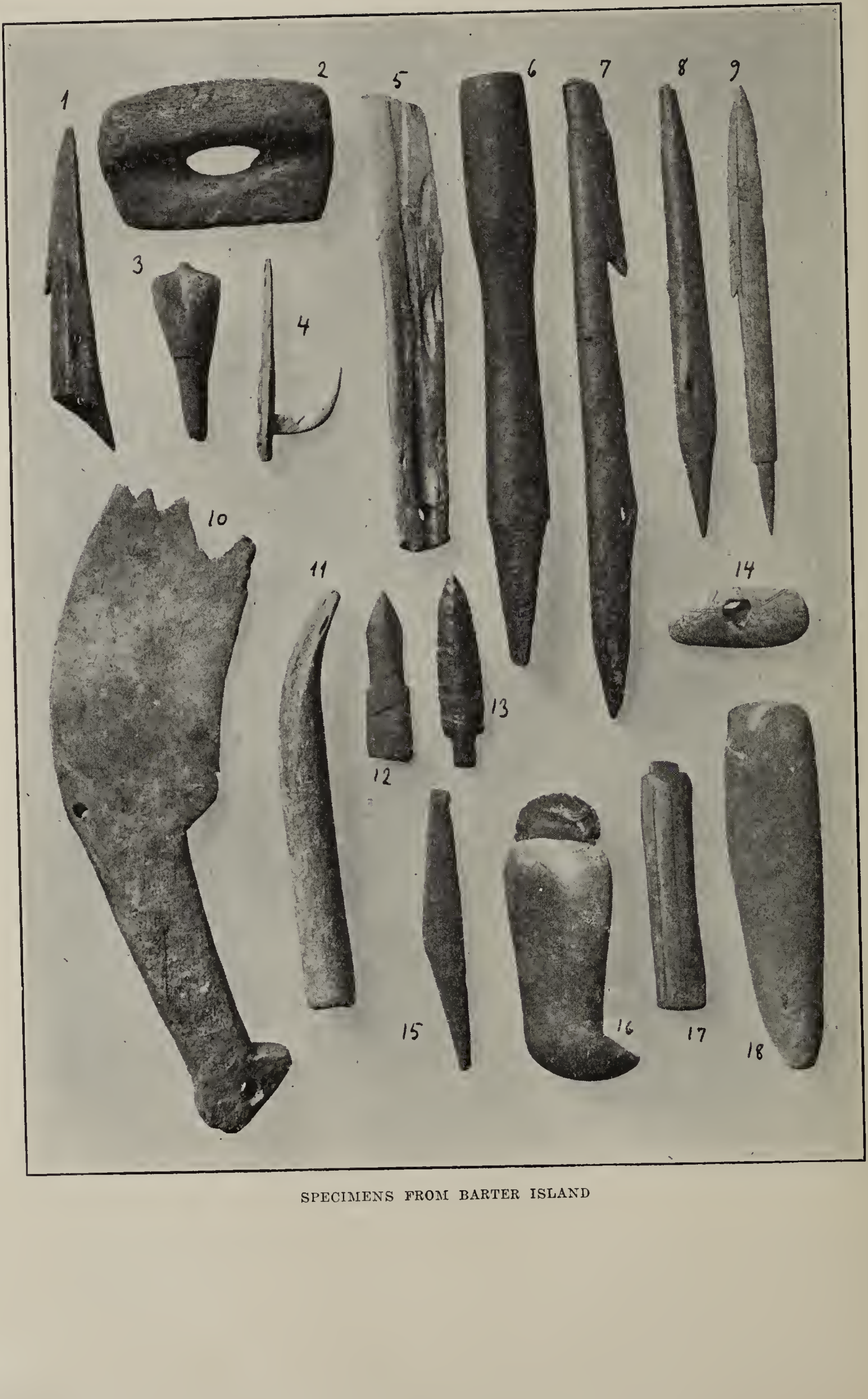
[8] Archaeology of the Central Eskimos, II, p. 32.

[9] *Ibid.*, Fig. 108.

[10] *Ibid.*, II, p. 65.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18

SPECIMENS FROM POINT ATKINSON


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18

SPECIMENS FROM BARTER ISLAND

small groove in one edge; peculiar to this find. Fig. 12 is a slate point of unknown use. Fig. 13 is a flint arrow-head, a common Western type. Fig. 14 is a ulu handle of ivory. Fig. 15 is a piece of a knife handle, made of two side-pieces, lashed together, a type known from the Thule culture and recent Alaska.[11] Fig. 16 is a scraper, an old Alaskan type. Fig. 17 is a knife with jade blade with transverse edge. Fig. 18 is a rounded adze-blade of slate.

As in the Point Atkinson find, we find here a few types, showing connection to the east, to the central Thule culture, such as the snow knife, and also peculiar types such as the fish-hook and the knife handle with small groove. But most of the types are well-known from other Western Eskimo finds or are still used in Alaska. That the find is not very recent is shown by types such as the woman's knife, the bladder dart head, and harpoon foreshaft, all long gone out of use, but known from the Thule culture; but the harpoon heads, the scraper, and the numerous labrets show that we have come far away from the Thule culture. There is nothing to suggest contact with Europeans. In a letter to me Jenness estimates the age of his own collection from Barter Island at three to four hundred years. I think that this collection is about the same age.

POINT BARROW COLLECTION

This collection, consisting of five hundred mostly well-preserved specimens, makes a very heterogeneous impression, recent and old mixed together; and apparently covering a very long period of time.

The types of the Central Thule culture are regarded as a separate group. Typologically these specimens are old, though some of them may be of quite recent make. A number of these Thule types in the Point Barrow collection are shown in Pl. III: A moveable lance point, otherwise unknown from the Western Eskimo (Fig. 1); a harpoon head of Thule type (Fig. 2); barbs for salmon spear (Figs. 3–4); cup-shaped fat-scraper (Fig. 5); bola ball (Fig. 6); adze-blade of ground jade (Fig. 7); knife handle with groove in one side edge, the prototype of the crooked knife (Fig. 8); arrow-head with conical tang and owner's mark on the barb (Fig. 9); pointed bone knife (Fig. 10); broad snow knife of whale bone, without shoulders (Fig. 11); baleen shave (Fig. 12); splitting knife (Fig. 13), the handle of which is made of two side-pieces; blade-sockets in both ends; bone ulu handle (Fig. 14); foreshaft for drill (Fig. 15); slate ulu with the back bound with baleen (Fig. 16). Of these the fat-scraper, bola, baleen shave, and splitting knife have been used quite recently, while the other types have gone out of use long ago, some of them certainly several hundred years ago.

Pl. IV shows a number of Point Barrow types not known from the Central Thule culture: Figs. 1–2 are harpoon heads with open sockets and the spur bifurcated or trifurcated; in the sides small flint blades are inserted. Fig. 3 is an ornamented harpoon head of a common Western type, ivory with slate blade. Fig. 4 is a small flat harpoon head with jade blade. Figs. 5–6 are the foreshaft and head of a small bladder dart. Fig. 7 is a short harpoon-foreshaft; Fig. 8, an arrow-straightener; Fig. 9, a bracer, decorated with two deer; Fig. 10, a thimble holder; Fig. 11, a knife handle with holes for baleen lashings; Fig. 12, a decorated flint-flake; Fig. 13, a scraper handle of Western type; Fig. 14, a needle case; Fig. 15, a decorated handle for a woman's knife; Fig. 16, a mesh stick for netting. Fig. 17 is a blunt arrow-head; Fig. 18, a mitten-shaped attachment for the kayak; Fig. 19, a labret; Figs. 20–21, whaling amulets, one of them of crystal, the other of ivory. Fig. 22 is a sharpening stone of slate and Fig. 23 a drum handle with a human face.

---

[11] *Ibid.*, II, p. 72.

What are the ages of these specimens compared with the Thule types? Let us review the distribution of the types. The Thule types have been used from Greenland to East Siberia in rather remote time, but most of them are now out of use. Of the types in Pl. IV, the arrow-straightener, bracer, and the blunt arrow are known from the recent Central Eskimo,[12] especially from the westernmost of these, the Copper Eskimo, but they are not known from the Thule culture and are thus probably later than this; they seem, in rather late times, to have spread from Alaska to the east.

Most of the types in Pl. IV are, however, unknown outside the Western Eskimo domain, and several of them, the harpoon heads (Figs. 3–4), the bladder dart, the harpoon foreshaft, the knife handle with holes, the flaker, scraper, ulu handle, mesh stick, ivory "mitten," labret, whaling amulets, sharpening stone, and drum handle, have been in use until quite recent times at Point Barrow, as may be seen in Murdoch's book. The thimble holder and needle case seem to be individually shaped specimens.

Then we have the harpoon heads (Pl. IV, Figs. 1–2). With their open shaft sockets, they are related to the Thule harpoon heads, but they differ in the bi- or trifurcated spurs; their patination seems to indicate high antiquity. Are these harpoon heads older or more recent than the Thule culture? Their shape seems to suggest, that they are later, a development of the simpler Thule types; their narrow distribution (North Alaska-Siberia) points in the same direction. On the other hand there are evidences of greater age: here we have lateral stone blades, while in the Thule heads we have only the remnants of side sockets;[13] and also the patination. Are these specimens relics from a very old culture, preceding the Thule culture? Their ornamentation suggests connection with Jenness' Bering Sea culture,[14] an old, in several respects, highly developed culture; its implements are richly decorated. Jenness presents the hypothesis "that there were Eskimos living south of Bering Strait before the Thule culture established itself in Arctic Alaska." This question can, however, hardly be solved until more systematic excavations are made in Alaska.

POINT HOPE COLLECTION

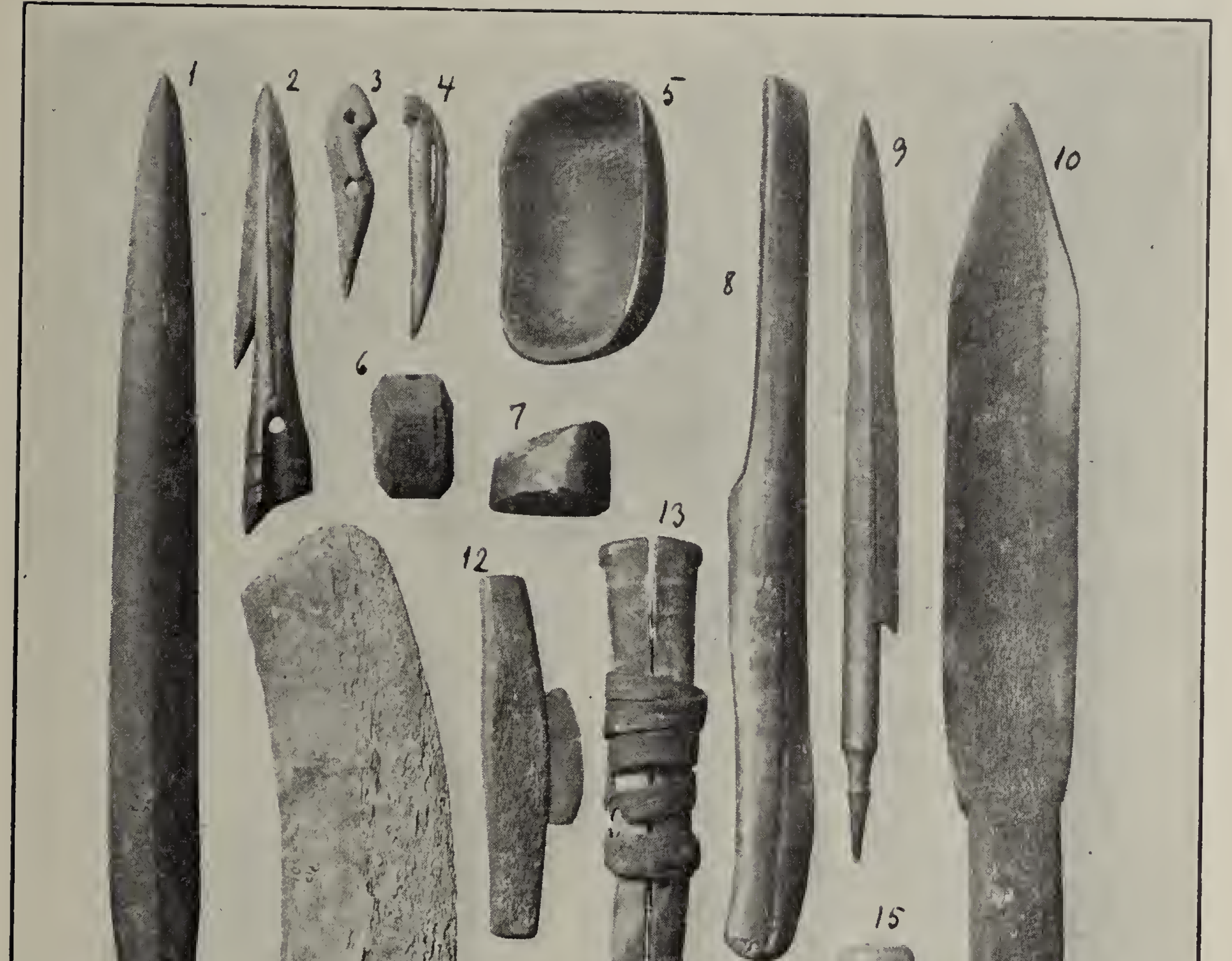
This collection is very similar to the preceding; this too is a mixture of old and new types, some of which are shown in Pl. V. The Thule stage is represented by: the harpoon heads (Figs. 1–2); the arrow-head (Fig. 3) being, as an exception, without barbs; the fine flint knife blade (Fig. 4); the adze head

---

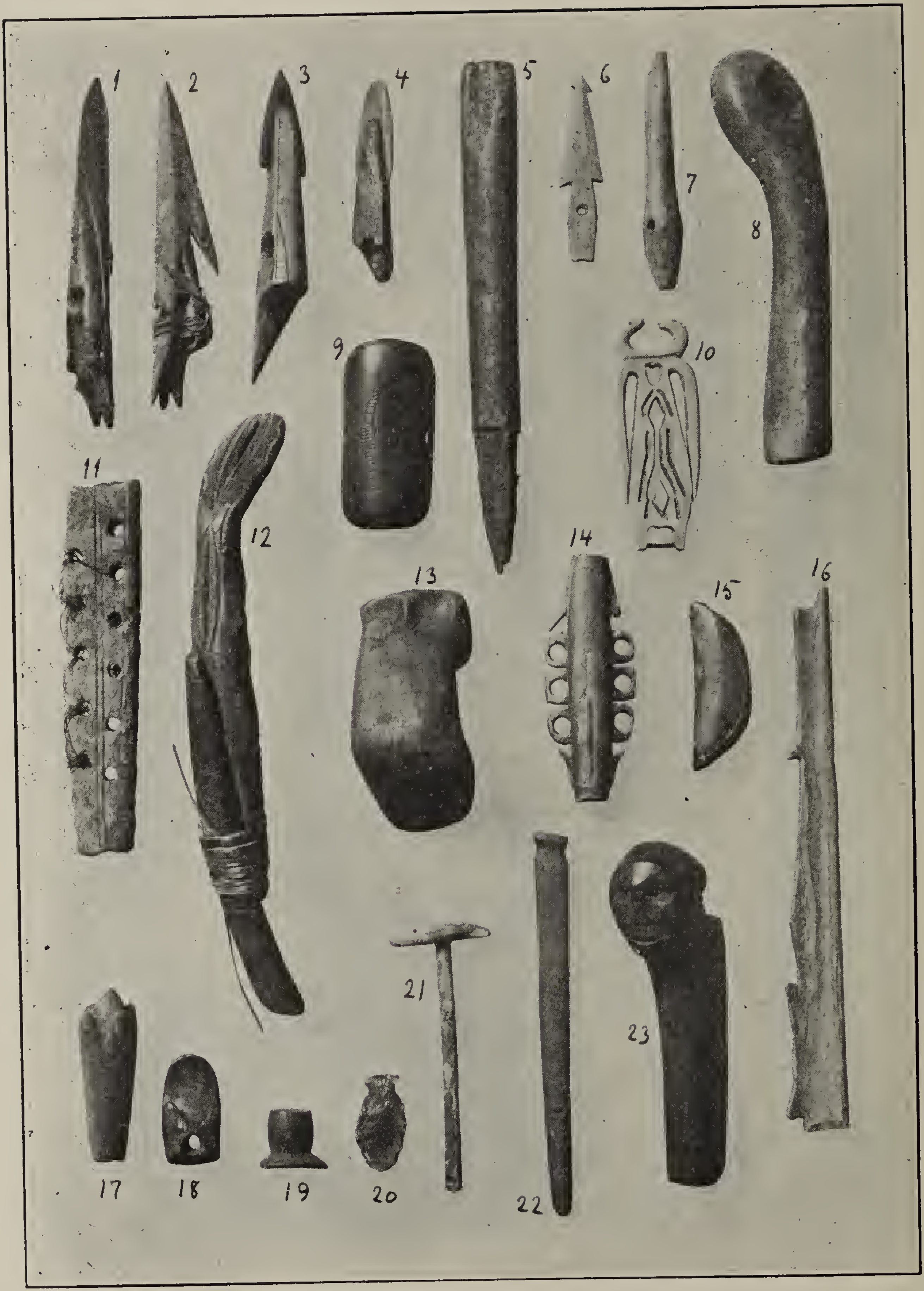
[12] Boas, F. The Central Eskimo, *Sixth Annual Report, Bureau of American Ethnology*, Washington, 1888, Fig. 474; Stefansson, V., in *Anthropological Papers, American Museum of Natural History,* vol. 14, part 1. Fig. 42, and p. 96.

[13] Archaeology of the Central Eskimo, *ibid.*, vol. 1, Fig. 13.

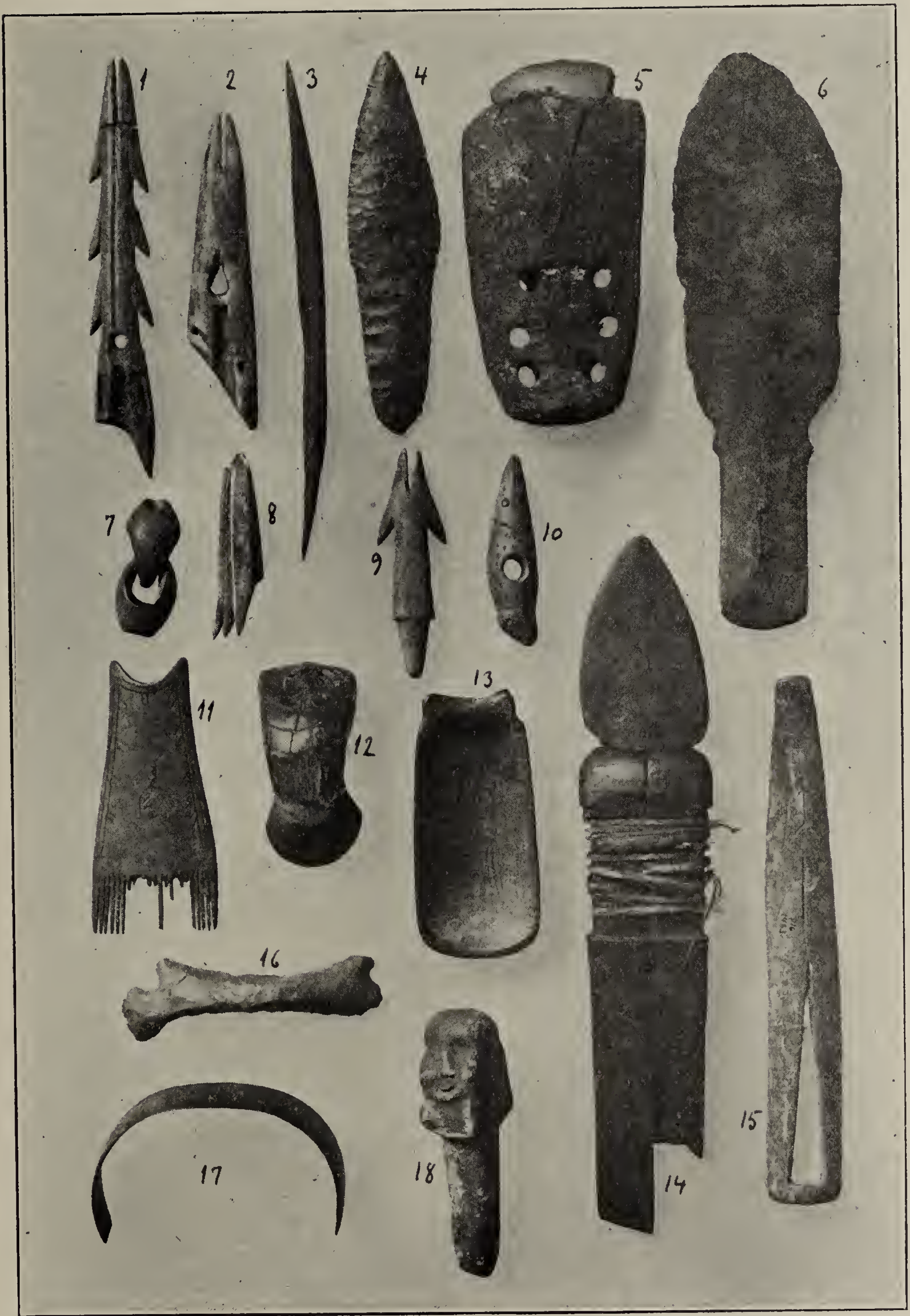
[14] *Problems of Polar Research*, p. 170.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

THULE TYPES FROM POINT BARROW


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
21
23
17
18
19
20
22

NEWER OR PECULIAR ALASKAN TYPES, POINT BARROW


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18

SPECIMENS FROM POINT HOPE

with jade blade (Fig. 5); the two-edged slate knife (Fig. 6); the chain links (Fig. 7); the big flensing knife (Fig. 14); the brow band (Fig. 17) (now very curved). Individually shaped specimens are the comb (Fig. 11), with a curious realistic engraving, and the drag line handle (Fig. 10). Peculiar, probably later, Alaska types are: the harpoon head (Fig. 8), flat, with three spurs; the bladder dart head (Fig. 9); the ivory scraper handle (Fig. 12), decorated with a human face; the fat scraper (Fig. 13), the flint scraper (probably a baleen shave) (Fig. 16); the double-faced amulet (Fig. 18) and the knife handle (Fig. 15), having a small side groove and an engraved man.

The close connection between the East Cape collection and the Thule culture was pointed out in my previous paper.

It has been possible to mention and illustrate here only very few of the types of these large collections. On account of their character it is impossible to draw more far-reaching conclusions from them. It has been possible to show how, in the two eastern finds, there are types, known from the Thule culture, but not from farther west; and how some of the finds show peculiar types, "provincialisms." An attempt has been made to divide the material from North Alaska into an older and a more recent group; the older is contemporaneous with the Central Thule culture; the younger seems to have developed in Alaska after the spread of the Thule culture from Alaska towards the east. Some of these younger types have later spread to the east; but most of them have never spread outside the Alaskan boundary. Finally, we have the problem of the Bering Sea culture and its relation to the Thule culture, a problem very important to the question of the origin of the Eskimo culture. This emphasizes further the necessity of extensive systematic excavations in Alaska where many problems remain to be solved; and they can only be solved with spade in the hand.

NATIONAL MUSEUM,
COPENHAGEN, DENMARK.

ETHNOLOGY

NEW DATA ON THE TYPES AND DISTRIBUTION OF REINDEER BREEDING IN NORTHERN EURASIA

BY WALDEMAR G. BOGORAS

I WILL present some new data collected among the students of our Northern College for Lesser Nationalities of U. S. S. R. These students belong to twenty-five nationalities, ranging from the Lapps in the west to the Chukchee and Asiatic Eskimo in the far east. While trying to educate them we were able to obtain from them some quite important ethnographical facts referring to various phases of their life and culture. Here I will speak only of the reindeer breeding by these northern tribes.

I begin with the Yenisseian of the lower course of the Yenissei River. The Yenisseian are called Yenissei Ostyak by the Russians, though they have nothing in common with the genuine Ugro-Ostyak living on the Obi River. I will refer to the Yenisseian by their own tribal name Ket, which means man.

Up to recent times, the Ket were considered a typical fishing people, who used driving dogs as a means of transportation and who had no reindeer. So much was asserted by M. A. Castrén with great force and authority and likewise by investigators of a later epoch. Nevertheless, we could ascertain from our intercourse with the young Ket students of our Northern College that most of them, even the families of our students, are genuine reindeer breeders. All the Ket living to the west of the Yenissei possess reindeer, certainly not very many, some twenty or thirty to an average family. Those living to the east of the Yenissei are fishing people and have no reindeer.

Ket reindeer breeders have no herd dogs to guard their reindeer though, up to the present, it was generally conceded that all reindeer breeding peoples living west of the Yenissei have herd dogs. The Samoyed, the Ostyak, the Vogul, the Zyrian, and the Lapp actually have them. Moreover, in summer the Ket usually go to the rivers to fish, leaving their reindeer in the woods to range freely and having no concern for them until the fall, when they try again to find and capture their animals, necessitating great loss of time. Moreover, some of the reindeer go astray and are never found.

The Ket drive their reindeer. Their sledges are similar to those of the Samoyed, but are more clumsily fashioned and of rather smaller size and heavier construction. Besides driving the reindeer with sledges, they use them also for riding. Their reindeer are rather large and strongly built, so that they can sit right on the back of the animal and not on its shoulders as is the usual custom with other reindeer riders, for instance, the Tungus. We confronted our Ket students with their Tungus companions and they discussed the method of riding the reindeer and especially the place where the rider must sit. Both groups sketched upon the writing desk a figure of a reindeer rider showing marked difference as to his position on the back or the shoulders of the animal, and both insisted on the accuracy of their own information.

The information contributed by the Ket students fully corresponds to the data collected by one of the assistants at Leningrad University, G. N. Prokofyev, who spent three years as a school teacher among the Ostyak-Samoyed in the forest border country on the Turukhan River and returned to Leningrad in July, 1928. The Ostyak-Samoyed are the immediate neighbors of the Ket. By the way, the Ostyak half of their name is also a result of misuderstanding, and they have nothing to do with genuine Ugrian Ostyak. The second half of their name, referring to the Samoyed, may be adopted only under restriction. For instance, they consider the genuine tundra Samoyed, the so-called Yurak Samoyed, as their bitter enemies. In ancient times they waged war against them in alliance with the Ket, whom, until the present, they considered to be kin.

They call themselves *Šel-kup,* "forest men." They are the immediate neighbors of the Ket. They exist by reindeer breeding and their herds are much larger than those of the Ket. Their reindeer are of the same sturdy build as those of the Ket. The reindeer of the Yurak Samoyed living on the tundra, on the contrary, are of slighter build and altogether much too weak to be used for riding.

The *Šel-Kup* also have no herd dogs and for the summer they too allow their reindeer to range freely while they go to the river for fishing. Some of them also practise riding their reindeer, sitting on the middle of the back. According to their tradition they come from the south. Their material culture, especially their clothing, is different from that of the Yurak Samoyed but similar to that of the Ket.

We have some knowledge of the Kalmash, the Kamasse, the Kamassintzi, who were also a Samoyed tribe, living further to the south in the Kansk District. The Kalmash in the middle of the nineteenth century still possessed reindeer of a strong build which they rode. They likewise had no herd dogs. At the present time the Kalmash not only have lost their reindeer, but have almost wholly vanished as a nation, having disappeared among the surrounding Russians. They have adopted agriculture, the language, and all the usual habits of life of the Siberian peasants.

Still further to the south in the Sayan Mountains, the Karaghas and the Soyot also breed reindeer, riding them as a means of locomotion. The Soyot live chiefly beyond the Russian frontier in the Urankhai country which has recently been organized into a republic of Tanu-Tawa. The reindeer of these southern peoples are the strongest in Siberia. The rider sits simply in the middle of the back of the animal just as on horseback. When reindeer riding, the Soyot even use horse saddles bought from the Buryat horse breeders. A saddle of this type has three girths, while the ordinary reindeer saddle has only one saddle girth. The Karaghas and the Soyot also have no herd dogs.

These facts lead us to believe that in the Yenissei River drainage, from the Sayan hills to the forest border lands in the far north, there exists a special form of reindeer breeding with several primitive details: there are no herd dogs; the reindeer are of an especially large and sturdy race; and in summer they are left to roam in the forest, while their masters go to the rivers for fishing. The Karaghas and the Soyot, however, have no fishing grounds; moreover, they have no country to which to drive their reindeer in the summer, so they keep them near the villages, protecting them against the reindeer flies and mosquitoes with dung-fire and abundant smoke.

By the way, the old question proposed by Castrén, as to which branch of the northern nations formerly lived on the upper Yenissei, the Samoyed, or the Paleoasiatic, namely the Ket, must be decided in favor of the latter, inasmuch as the southern Samoyed consider themselves quite different from the northern Samoyed, the Yurak of the tundra. The southern Samoyed consider themselves as akin to the Ket. The language of the southern Samoyed, the Kamassintzi, as well as that of the Ostyak Samoyed, is quite remote from the Samoyed Yurak tongue.

The primer composed by Prokofyev for his Ostyak-Samoyed school, when sent to our Northern College in Leningrad, proved almost wholly unintelligible to all northern Samoyed students who came to us from the tundras, from the Large Zembla tundra on the west from Pechora to the Pasina tundra eastward from the Yenissei. At the same time, all of these northern Samoyed students understood each other and even gradually came to work out a new form of a common Samoyed language. I must again mention the fact that the Ostyak Samoyed used to make common cause with the Ket, intermarried with them, etc. Their shamanism is wholly different from that of the Tundra Yurak and nearly identical with that of the Ket.

The Lapp who form the most westerly branch of the reindeer breeders also used to leave their reindeer at full freedom in the woods for the summer time. But along with that very primitive custom they have a herd dog, exactly like the tundra Samoyed.

Summing up the facts, we have found on the western shore of the Yenissei River a new type of reindeer breeding of very primitive character, with no watch dog, but with a race of reindeer, quite large and strong, that are allowed, for the summer time, at full freedom in the woods and usually in that period become half wild, mixing freely with genuine wild reindeer. Some of them join their wild companions out of reach of their human masters.

The Samoyed Yurak of the European tundra and those in western Asia are the chief reindeer breeders who employ the herd dog. Eastward from the Pasina and Khatanga tundra the reindeer breeding tribes have no herd dog. But the Dolgan living on the Khatanga, between the Samoyed and the Yakut and Tungus have both forms of reindeer breeding. Up to the present they were considered to be a branch of the Tungus, who have assumed the Yakut language, but I am inclined to consider them as the most western branch of the Yukaghir Chuvantzi stock, who were first Tungusized and then have been subjected to Yakut influence. The Dolgan live to the west of the Lena. Other branches of the Yukaghir, living on the rivers between the Lena and Kolyma, such as the Indighirka, Yana, Alaseia, were likewise at first assimilated by the Tungus. Then, along with the neighboring Tungus, they were influenced by the Yakut and have adopted their language.

The modern Dolgan, though speaking Yakut, consider themselves a different people and now even want to secede from the Yakut Republic where they will undergo the process of Yakutization more and more in the course of time. As to reindeer breeding, the Dolgan in olden times had no herd dog. So their method of herding the reindeer belonged to the eastern type along with the Tungus, the Yakut, and the Reindeer Yukaghir. All these eastern tribes have no herd dogs.

Still, in the last fifty years, the use of the herd dog has spread slowly eastward. First of all it was introduced to the Dolgan. Pioneers of this change were young Dolgan boys who married among the Samoyed and so had to assume the way of living and working of their new families. From the Dolgan the use of the herd dog gradually passed to the western Yakut and in the last decade reached even the shores of the Lena River.

Still more interesting are the facts we have collected from some other students belonging to the tribes who live on the western shores of Okhotsk and Bering seas, part of them sedentary fishermen, the remainder reindeer breeding nomads.

The Lamut (Tungus) of the Okhotsk and the Chukchee of the Anadyr brought information that in the last two decades some of the reindeer breeders tried to train their hunting or driving dogs to guard the reindeer. A young dog is let out on a long leash and must follow the reindeer herd. The master, by jerking the leash to the right and the left, trains the dog to change his direction at every pressure on the leash. In the end the dog is set free and continues to follow the herd and lead it in the direction desired by the master.

Until now, few such dogs have been trained, but their price is much higher than that for ordinary hunting and driving dogs. If this information is really true, it shows that reindeer breeding, notwithstanding its primitive form, is capable of technical progress.

Imitation of the Reindeer Samoyed is wholly excluded, since the plateau of the Okhotsk land and the tundra of the Anadyr are separated from the Yenissei Samoyed by a populous barrier of other reindeer breeding peoples who have no herd dogs at all.

The genuine shepherd dog is also excluded, since none of the neighboring tribes have sheep; nor do they have any idea of the shepherd dog.

It cannot be denied that some kind of information about the herd dog could have reached the Okhotsk Tungus, perhaps even from a literary source, but if this is so, the more remarkable is the fact that such information could create immediate results of a practical kind. Still more remarkable is the case of the Anadyr Chukchee whom I studied in full detail some thirty years ago. At that time they had no idea whatever of reindeer herd dogs. A Chukchee student, Tewlánto, a native of the Anadyr country, assured me: "Yes, to be sure, in your time there were no herd dogs at all. The training was started only in the last twenty years."

I will omit some very interesting and new material on the distribution of types of sledges in various parts of Arctic and sub-Arctic Eurasia. Sledges are used for reindeer driving and for dog driving and the mutual influence of both types of transportation is now under investigation. Leaving that subject for some future occasion, I will pass to the distribution of types of reindeer breeding and to the characteristics which we could lately determine, partly on the basis of our new information.

Some time ago I proposed dividing the reindeer breeding of Eurasia into three large groups. Two of the groups belong to the tundra; their reindeer are of smaller size and so their method of locomotion is merely that used with driving sledges. The difference between these two tundra groups, nevertheless, is very important. One of them, westward of the Yenissei River, uses the herd dog, while the other, east of the Yenissei, has no herd dog, and the human herdsman has to rely exclusively on his own exertions.

The line of demarcation between these two groups coincides with the old margin line of the so-called Angarian Continent. The country eastward from that margin line is more or less mountainous, especially in the south; the country westward from that line is flat and low toward the south. The Arctic tundra here merges into flat forest range and then comes the boundless prairie and partly the desert. In the eastern part of the country throughout the hills of the sub-Arctic zone, covered with redwood, extends the third type of reindeer breeding, with riding the reindeer as the means of locomotion. The uneven character of the ground makes driving with sledges almost impossible. The herd dog is also absent, nor is it very necessary. Reindeer are more tame and herds less numerous, so the guarding of the herds is not so difficult and absorbing as on the tundra.

The riding reindeer type, nor indeed reindeer breeding in general, does not extend westward beyond the Yenissei, so we can divide the whole area occupied with reindeer breeding either vertically according to whether the herd is guarded with or without dogs, or horizontally, according to the means of locomotion, either driving or riding.

In the last few years, on the basis of the new facts, some of which were mentioned above, we were able to distinguish the distribution of reindeer breeding types in more detail than previously. So we determine seven types of reindeer breeding, taking into account besides the elements mentioned above, some other details such as, leaving the herd for the summer in full freedom, the form of the sledge, the variety of reindeer races, etc.

Westward from the Yenissei, we have found, as was indicated above, a type of reindeer breeding the chief elements of which are a strong race of reindeer, the leaving of the herd in full freedom for the summer, and both types of locomotion, driving as well as riding reindeer.

On the western border of the reindeer breeding area we find, among the Lapp, another combination, also of a peculiar kind: herd dog, leaving the herd to their summer freedom, a sledge of the toboggan type, also pack reindeer, but no riding reindeer. As to the toboggan, a conveyance of this form made of a single horseskin or cowskin with a flat-shaped load secured inside is, up to the present, in full use among the Siberian Turki. A Shortzi hunter would go away to the mountains, moving on skis and dragging along a skin toboggan of thirty and more kilograms in weight.

To the far northeast, the Yukaghir and the Chukchee variations of reindeer breeding differ chiefly in the form of the sledge. The Orok on Saghalin Island combine three methods of locomotion, the reindeer sledge, the riding reindeer, and driving dogs.

Following these preliminary remarks I will enumerate all the types and areas of reindeer breeding consecutively:

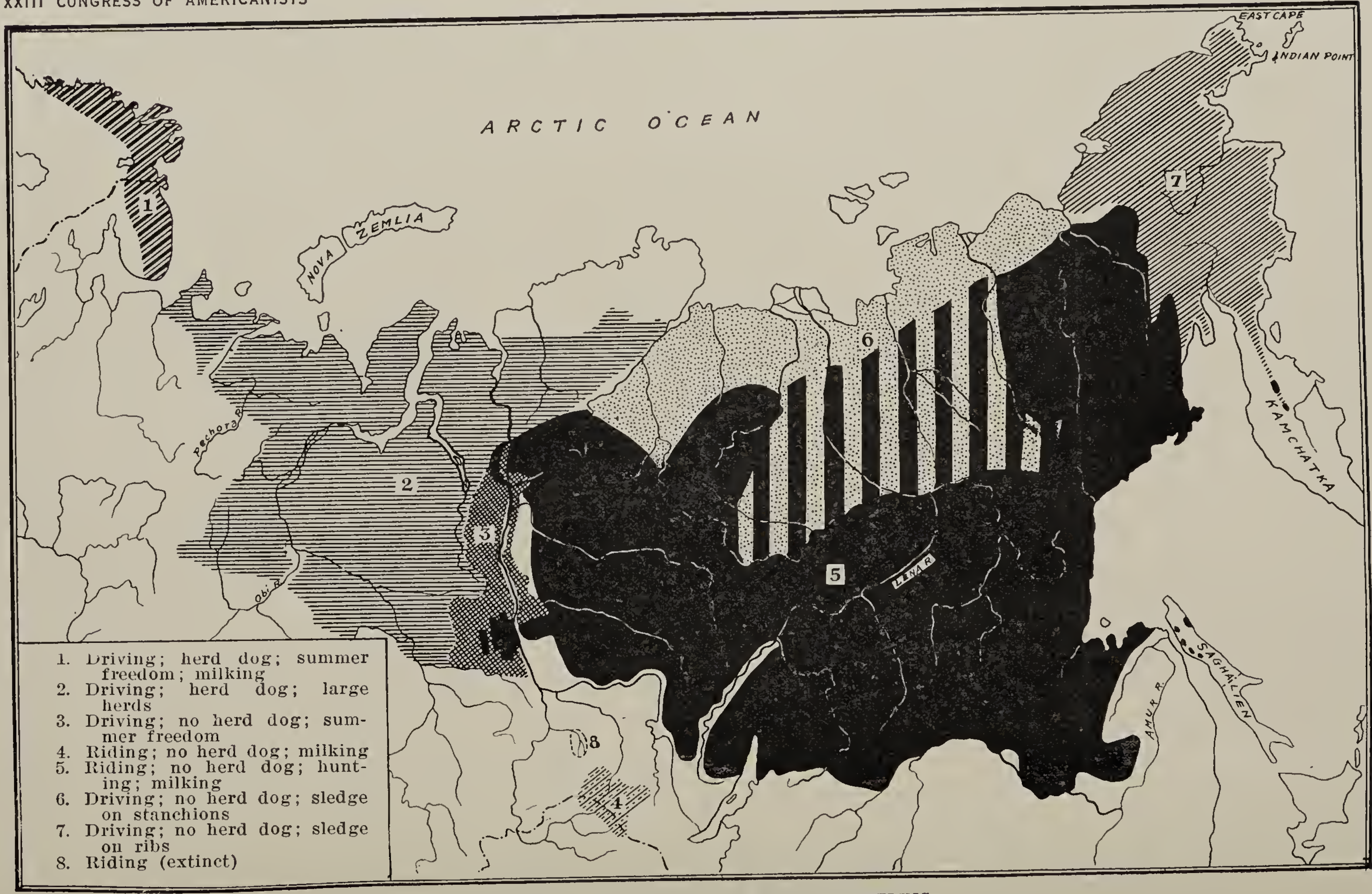
1. Western border of the entire area of reindeer breeding. Tundra and forest. The Lapp in Norway, Sweden, Finland, and Russia. Population of the tribe, 20,000. Of these, within the limits of Russia, there are less than 2,000. Herd dog, summer freedom of the reindeer, pack reindeer, the toboggan sledge. In outer shape the Lapp sledge is similar to a boat. Still, when the bottom is carefully examined, the method of joining the thin narrow planks is found to be primitive and resembles more than anything the joining of planks or of whalebone slabs in the Eskimo toboggan. The Lapp reindeer herds prosper in Norway and partly in Finland, but they have diminished in Russia. Still, in the last twenty years they have begun to increase. Also the number of people is gradually increasing. There are now in Russian Lapland besides the Lapp herds, several others belonging to the Komi-Zyrian, who came to Lapland some fifty years ago, bringing along a few families of Samoyed herdsmen. The Komi-Zyrian are a Finnish people with a higher culture than the Lapps. The reindeer herds of the Zyrian are in good condition.

2. Tundra and forest border in Europe and Asia, from the border of Lapland to the Päsina and Khatanga rivers, beyond the Yenissei. The Samoyed, the Ostyak, the Vogul, the Komi-Zyrian, and a few Russians. The Ostyak, the Vogul, and the Komi-Zyrian belong to the Finnish group. The Samoyed are different. Their anthropological characters are fully Mongoloid; the language seems only influenced by Finnish elements. The number of people practising reindeer breeding is approximately 50,000. Of these are the Samoyed, 20,000; the Ostyak, 10,000 (50 per cent of the total number); Vogul, 8,000; the Komi-Zyrian, 12,000 (6 per cent of the whole number, 200,000). The Russians do not count. The elements of reindeer breeding are: herd dog; no pack reindeer; no riding reindeer; driving sledge of the Samoyed type with strong runners and upright stanchions; herds numerous with the Komi-Zyrian, partly numerous, but of great variance with the Samoyed, decreasing with the Ostyak, and stationary with the Vogul.

The method of reindeer breeding was originated by the Samoyed who are, up to the present, the best herdsmen of this part of the tundra. Even the numerous herds of the Zyrian, organized to bring quite a tangible profit in selling the produce for cash, have almost always some hired Samoyed herdsmen. This method of reindeer breeding makes some conquests on its eastern border among the Dolgan, the Tungus, and the Yakut.

3. The Yenisseian group. Forest border, dense forest in the south. The Ostyak-Samoyed and the Ket (Yenisseian). No herd dog. Race of reindeer strong. Summer freedom of reindeer. Driving sledge of a type resembling the Samoyed, but more clumsy in shape. Less frequent riding reindeer. The rider sits on the middle of the back of the reindeer. The number of people: Ostyak-Samoyed, 2,000; Ket, 600. The herds of the Ostyak-Samoyed are in decent condition, the herds of the Ket dwindling, almost vanishing.

4. The Sayan group. On the upper Yenissei in the Sayan Mountains, partly beyond the Russian frontier. Tribes: Karaghas and Soyot. The population: Karaghas, 400; Soyot, about 2,000 (3 per cent of the total Soyot, counting about 60,000). Even of these 2,000 Soyot reindeer breeders the most part live beyond the Russian frontier. No herd dog. The race of reindeer quite strong and the


EAST CAPE
INDIAN POINT
ARCTIC OCEAN
NOVA ZEMLIA
Pechora R.
Obi R.
LENA R.
KAMCHATKA
AMUR R.
SAGHALIEN
1
2
3
4
5
6
7
8
1. Driving; herd dog; summer freedom; milking
2. Driving; herd dog; large herds
3. Driving; no herd dog; summer freedom
4. Riding; no herd dog; milking
5. Riding; no herd dog; hunting; milking
6. Driving; no herd dog; sledge on stanchions
7. Driving; no herd dog; sledge on ribs
8. Riding (extinct)

TYPES AND DISTRIBUTION OF REINDEER BREEDING reindeer tame. Mode of locomotion, riding. For saddling, an ordinary horse saddle with three girths is used. Milking of reindeer within this group exists from ancient times. This detail could not be included in the elements of the classification since it is used in the Sayan group, also among the Lapps and sporadically among the Tungus, and it does not seem to be connected with other elements of classification.

The Sayan group probably formed a unit with the Yenisseian group, but at present it is detached from them, being surrounded by a barrier of other peoples and of different methods of production. Nevertheless, not very long ago there existed a link between these two groups. Even in the middle of the nineteenth century there lived midway between the two groups a tribe of the Kalmash, who also rode reindeer and had a very strong race of the animals. They spoke a southern Samoyed dialect, but since that time they were first assimilated by the Turks, and then, together with the Turks, were Russianized.

5. Large stretch of the sub-Arctic zone. The upper Obi River to Kamchatka and Saghalin Island. The lineal extension of this area is more than 10,000 kilometers. It is occupied by various Tungus tribes. Number of reindeer breeders, 40,000 (50 per cent of the whole tribe. The other 50 per cent are fishermen and partly cattle breeders, traveling with horses). No herd dog. Reindeer used for riding. Driving in sledges occurs as an exception. Herds are small in number and constantly decreasing. Reindeer used chiefly for traveling, when hunting wild game in the mountains or upon the prairie.

6. Lena-Kolyma group. Tundra and forest border. Yukaghirized Tungus, Northern Tungus, Yakut, no herd dog; driving a sledge of a characteristic form, with three upright stanchions and a bow in the front, placed in the horizontal position. To that bow the heads of the runners are tightly lashed with thong. This type of sledge, as far as could be ascertained, was borrowed from dog-driving, but the dog sledge of this type has four pairs of stanchions and another extra bow posted in an upright position in the middle of the sledge and lashed to the foremost pair of stanchions. The driver directs the course of the sledge, holding on to that upright bow with his left hand, while with the right hand he works his strong iron-shod brake all the time as the dogs run too quickly and the sledge is on the verge of being overturned.

The dog sledge of this form has a distribution much wider than its reindeer driving copy. Such dog sledges are used on the far northeast by the Chukchee and the Eskimo both on the Arctic and the Pacific shore, then in the Okhotsk Sea by the Koryak, also by the Kamchadal, by the Yakut dog drivers, and by all the numerous and varied groups of Russian creoles and the Russianized natives. At the same time the reindeer sledge of the Koryak and the Chukchee is of a different shape.

The Lena-Kolyma type of reindeer breeding extends to the south down to the Aldan River, where it meets with the riding type of reindeer breeding so characteristic of the Tungus. Both types exist side by side. Moreover before the War the Yakut merchants and the keepers of the mail post stations succeeded in breeding large herds of reindeer which were cared for chiefly by the Tungus herdsmen. The reindeer were tame and in good condition. These herds were more than half exterminated during the civil war, but in the last few years conditions have improved, though very slowly.

7. Kolyma, Anadyr, East Cape, and Northern Kamchatka group. Tundra and forest border. Reindeer Chukchee, Reindeer Koryak, Reindeer Chuvantzi, some Asiatic Eskimo. Chukchee, about 8,000; Koryak, about 4,000; Chuvantzi, a few hundred. Asiatic Eskimo reindeer breeders do not count. Other divisions of the Chukchee and the Koryak tribe live by fishing and hunting sea mammals. No herd dog. The race of reindeer are undersized, though apt to fatten. They are wild and wayward and but partially domesticated. The appurtenances of the houses are clumsy and not very well adapted for nomadism. So the families in mid-summer and mid-winter interrupt their wandering, remaining in the same place. In this the Chukchee and the Koryak reindeer breeders differ from every other type of the same pursuit.

Sledge of peculiar shape with curved ribs instead of stanchions. The fastening of the ribs to the runner is quite primitive, performed by lashing with a thong without any mortise. A sledge of a more or less similar pattern was used by the ancient Kamchadal for dog driving. It was also used by the Maritime Chukchee before the coming of the Russians. Perhaps the dog driving sledge with four pairs of stanchions, now in full use among the Maritime Chukchee, was introduced only after the Chukchee war was ended and is due to the Yukaghir influence.

Such is the distribution of various types of reindeer breeding through the northern zone. The drawback to this classification is represented by the omission of milking as an important item of the reindeer breeding complex. But I cannot establish a connection between the milking of the Lapps and that of the Sayan and partly of the Tungus. Moreover, among the Lapps milking is combined with the custom of freeing the reindeer in the woods. Both details seem to be in open contradiction since milking presupposes the domestication of the animals and freedom in the woods means a return to the wild state. This contradiction of the well-known and established facts has, as yet, not been explained.

Museum of Anthropology and Ethnography,
Academy of Sciences, Leningrad.

BEAR WORSHIP AMONG TURKISH TRIBES OF SIBERIA*

By N. P. Dyrenkova

THIS work is based on field observations made among the Turkish tribes of the Altai: namely, the Altai, Tubalar (Tuba-Kiji), Telengit, and Shortsi of the Kuznetskaja Taiga (in the years 1925–1927), as well as among the Sagai tribes in the regions of Minussinsk, near the Kuznetskaja Taiga (1927). Information has also been furnished by some students in the Ethnographic Department of the Leningrad State University, who were engaged in field-work among various Turkish tribes of Siberia; finally, data have also been obtained from the literature.

Bear worship among the Turkish tribes is briefly dealt with in works of a compilatory character: Czaplicka, M., *The Turks of Central Asia in History and at the Present Day* (Oxford, 1918), and Holmberg, Uno, *The Mythology of all Races,* Vol. IV, *Finno-Ugrig, Siberian* (Boston, 1927). In the extensive monograph by A. Irving Hallowell, "Bear Ceremonialism in the Northern Hemisphere" (*American Anthropologist,* N.S., Vol. 28, 1926), the bear cult is described in detail and from all points of view; however, these data refer to the northern regions of Eurasia and America. Of the Turkish tribes only the Yakut are mentioned (quotations from Shklovsky, Simson, Galizzin, and Seroshevsky).[1]

As to studies of a general character which contain some data on bear worship among Turkish tribes of Siberia, we quote the work of Jadrinzev:[2] *On the Bear Cult* (especially among tribes of the North) and of Potanin,[3] *North Altai Legends of the Son of Heaven.* In both works an attempt is made to connect the bear cult with shamanism. G. N. Potanin connects legends about the bear with those about the son of Heaven who descended to the earth. The same problem is also discussed in his other works: *Erke, the Cult of the Son of Heaven in Northern Asia, Materials for Turkish-Mongol Mythology* (Tomsk, 1916). There is also a partial presentation of the same subject in his study: *Cross-shaped Designs on Shamans' Drums* (*Memoirs of the East Siberian Section of the Russian Geographical Society,* Vol. XXIV, 2). The last two works lack clearness in their construction and in the analogies introduced; and they are in need of more detailed investigation and of later correction.

Comparative data on the bear cult are also presented by Vessielovsky.[4] He discusses particularly the bear festival which he calls the "Bear Drama."[5]

---

* The author is under obligations to L. N. Potapov for permission to use some of his field data in the preparation of this report.

[1] The author on p. 155 emphasizes the necessity of investigating this cult in Central Siberia, considering the lack of material referring to this region; also because of the fact that this region has been the scene of migrations of peoples from Central Asia.

[2] *Ethnographical Review,* no. 1, issue IV, p. 101, Moscow, 1890, with an Addendum by G. Kulikovsky. (In Russian.)

[3] *Eastern Review,* no. 13, Irkutsk, 1882. (In Russian.)

[4] *Three Chapters from the History of the Art of Poetry.* St. Petersburg, 1913, vol. 1, p. 356. (In Russian.)

[5] "Festivals in honor of the bear are customary among the tribes of West and East Siberia, namely among the Gilyak, the Ainu, and others. The bear is worshipped as a being possessing

Potanin[6] calls attention to the bear cult among Turkish and Mongol tribes of Siberia, gives a number of analogues and also mentions several myths about the bear. Parallels referring to Turkish tribes are also given by N. Charuzin.[7] Grum-Grjimailos[8] speaks of remnants of totemism in the bear cult of the Uriankhai natives. Finally, we have two contributions by W. G. Bogoras-Tan. In one[9] he discusses the origin and foundation of the bear myth; in the other,[10] he investigates the distribution of this myth over northeastern Asia and northwestern America. We also possess detailed studies of the bear cult of various tribes: of the Gilyak and the Ainu and of various peoples of northwestern Asia and of northern Europe.

On the other hand, records of the ceremonials connected with the killing of the bear among Turkish tribes are practically lacking in the literature. Some authors deny the existence of such ceremonials among the Turks. For instance, D. A. Klemenz maintains that no traces of bear worship remained among the Yenissei Tatars (Kachintsi, Beltir, Sagai, Kizil, Koibal).[11]

We possess in the manuscript report of the geodetist, Shishkov,[12] written for Tatishchev, governor of Tomsk, the earliest reference to the particular attitude of the Siberian Turks toward the bear.

> ''They worshipped the animals and especially the bear, and they prayed to him, wanting to be as strong and as young and let him preserve them from freezing they asked the bear lest he should eat them, 'Go away, do not follow our road.' And when he would come on to them, they would say, 'Why are you coming? I do not offend you, do stop.' And he would stop. Then they would shoot at him, and he understood their speech.''

This information, as well as more recent data, emphasizes the particular attitude of the Turks of Siberia toward the bear, and is confirmed by our recent field observations. Fear is constantly intermingled with respect. On the other

---

superhuman power and wisdom, as a son of heaven or of the supreme god (Ostyak, Vogul). These festivals are related to ancient cults which expanded over large areas, being more ancient than the Hellenic religion. These cults survived in Attica in the festival of Vravroniae as a part of the ceremonial; they can be identified as European beliefs and superstitions both of very old or more recent date, and have called forth the indictment of the church. All those beliefs were preserved in Europe as fragmentary survivals. They entered into the Greek anthropomorphous myths as detached episodes and they may be recognized as independent elements among the native tribes exhibiting a special cycle of beliefs and ceremonies. We may follow their various manifestations step by step from the hunter's festival and its imitation-play down to the regular worship with its central god-like figure: the hero-bear.''

[6] *Sketches of Northwestern Mongolia.* St. Petersburg, 1881, vol. IV, pp. 169, 750, 753, 757. (In Russian.)

[7] Bear Oath and the Totemistic Basis of the Bear Cult among the Ostyak and the Vogul, *Ethnographical Review*, vol. XXXVIII–XXXIX, no. 3–4, Moscow, 1898–1899. (In Russian.)

[8] *Western Mongolia and the Uriankhai Country,* Leningrad, 1926, Part 1, vol. III, p. 51. (In Russian.)

[9] The Myth of the Death and Resurrection of the Animal God, *Artistic Folklore,* Part 1, p. 67, Moscow, 1926. (In Russian.)

[10] The Folklore of Northeastern Asia as compared with that of Northwestern America, *American Anthropologist,* N. S., vol. 4, pp. 577–683, 1902, p. 661.

[11] Preliminary Notes on an Excursion to the Districts of Achinsk and Kansk, *Reports of the Eastern Siberian Section, R. G. S.,* vol. XX, no. 1, Irkutsk, 1889, p. 55. (In Russian.)

[12] *Description of the Districts of Tomsk and Kuznetsk,* 1739–1743. In manuscript. We give a literal translation of the loose and clumsy language of the manuscript.

hand, various forms of reprimanding the bear are rather conspicuous among the Turks of Siberia (the dead bear is whipped, his teeth are knocked out, etc.). The Turkish tribes of Siberia have preserved their particular attitude toward the bear up to our time; its characteristic features being various ceremonies and taboos which appear as an essential part of the bear hunt.

A comparison with the ritual bear festivals of other peoples proves them to be well preserved remnants of a widespread cult. This is the more natural as the population of the Altai Sayan region, the home of most of the tribes here referred to, should not be looked upon as originated from a primary Turkish source. The language and the religion of these tribes who talk Turkish idioms have preserved many features suggesting that they have been of distinct origin, but assimilated by Turkish tribes.

The economic basis of their lives is primitive. It is hunting, combined more or less closely with nomadic cattle breeding. The cultural habits of the hunting period; bear worship; the belief in hunter's spirits; common methods and instruments of hunting; were not completely swamped by the wave of Turkish influence, especially in the dense forest of the southern hills, where natural conditions were favorable to the early habits. A number of Turkish-speaking tribes are typical hunters (Shortsi, Karagas, Tubalar, Soyot-todja). Among others cattle breeding is more developed and hunting forms only a supplementary pursuit (Yakut, Kachintsi, Soyot, Altai).

V. V. Radloff,[13] who is one of the founders of Turkology, and also M. A. Castrén, have called attention to the intermingling of Turkish and Samoyed and especially Yenissei Ostyak elements. Their conclusions are based largely on linguistic material. Recently Professor Bogoras-Tan has supported their views by ethnographical evidence.[14] Nevertheless, this question is still in need of a final solution.

The present study, which follows ethnographical principles, may serve as an argument in favor of the existence, beneath a Turkish stratum, of an ancient hunting culture among tribes of Siberia.

Among Turkish tribes, especially among those who have remained hunters until now, a peculiar attitude toward animals in general,[15] and particularly toward the bear, prevails. It is most evident during the hunt and is characterized by the way in which the bear is handled before and after killing. The rites and ceremonies performed over the carcass constitute the fundamentals of the bear cult, which still survives in its well-developed state among the northern and northeastern tribes, such as the Tungus and the Palaeoasiatics. On the other hand, we find a similar but a much more fragmentary form of this cult among the Turkish tribes of Siberia. Here we find survivals of such a cult, though some of them are still fully practised.

---

[13] *Aus Sibirien.* Leipzig, 1893, pp. 187, 190, 206, 212. Also *Ethnographical Study of the Turkish Tribes of South Siberia and Jungaria.* Tomsk, 1887, p. 13. (In Russian.)

[14] Ancient Migrations of Peoples in Northern Eurasia and in America, *Bulletin of the Museum of Anthropology and Ethnography,* vol. VI, Leningrad, 1927, p. 79. (In Russian.)

[15] Even now these tribes consider the successful outcome of the hunt as the result of the benevolence of the master of the forest, whom they entertain during the hunt with fairy tales and by playing on their *balalaikas;* or they consider it a self-sacrifice of the animals. They do not call animals by name; they do not ridicule them and do not break or burn their bones.

The hunter prepares secretly for the hunt. The participants do not talk, lest the bear hear and the hunt be unsuccessful. The Yakut are not allowed to discuss the preparation, for fear the bear might take some measures in advance and might come to the hunter's dwelling to steal his child.[16] The Chelei (a tribe of the Shortsi) kill all the animals they meet on the way to the bear's den, lest they notify the bear.

During the hunt nobody mentions (Shortsi and Altai) the word bear, but they use allegory; for example: *Uldam,* my grandfather; *Tai,* maternal uncle; *Abai,* great-grandfather; *Ulu-kiji,* great man; *Adalik,* the revered one; *Maimak,* the paw; or *Aba,* father. Sometimes they use only the pronoun: *Ol,* he. While surrounding the bear, the hunters try to talk in allegory too, such as "rod"[17] for gun; and they do not mention any hunter's name. When they approach the bear's den they chop off branches with which they fill the opening. When they are about to attack the bear, the hunters of the Kobıy clan (in the Shortsi District) would address the bear thus:—

"*Pektener polzaη, pckten,* If you want to shut yourself in, shut yourself in.
Pektenmes polzarη, shIgIp par, If you do not want to shut yourself in, come out."

Hunters of the Karga clan (Shortsi District) and others converse with the bear only where there is a heavy snow in the forest, otherwise they are afraid to do so.

In Ulus Bay, the Ichegi clan lift the bear, saying:—

"*Ei apčhak, čha kildi,* Hey, old man, the war arrived.
Tapsaba apčhag, Be still, old man.
AksIn pikten, Your mouth is shut.
Isigin pikten, Your door is shut."

It is said that after these words the bear becomes tame.

The Yakut,[18] when they have trapped the bear in his den, arouse him before attacking him, saying: "Get up, the army has come to fight."[19] The custom of arousing the bear, the Shortsi explain by the belief that if a sleeping bear were attacked, he would take revenge later by attacking some member of the hunter's family who had fallen asleep in the woods. An analogous belief is found among the Yakut.[20]

---

[16] Ionov, V., The Bear in the Beliefs of the Yakut, *Living Antiquity,* vol. XXIV, part III, 1915, p. 52. (In Russian.) According to a statement by A. Popov, made in 1927, the hunters are required to recite the following incantation when they are fully armed, before starting on the attack on the bear: "Master, who has created us, made us alive; we, the people of the White Czar, come to you, according to custom, in order to kill."

[17] Among the Altai the rifle during the hunt is called *küze* (the literal translation of this word is son-in-law). Verbitsky, *Dictionary of the Altai and Aladag Idioms,* Kazan, 1884, p. 189. (In Russian.) This term is used among the Shortsi for a stick to poke the fire in the *balagan.*

[18] Seroshevsky, V., *The Yakut,* St. Petersburg, 1896, p. 659. (In Russian.)

[19] A. Popov states that the Yakut, while approaching the bear, say, "Worthy man, try to awaken if this is your desire."

[20] Seroshevsky, V., *ibid.;* Ionov, V., *l. c.,* states:—"The bear does not attack the sleeping, excepting for those who have themselves slain a sleeping bear. Therefore the Yakut find it necessary to awaken the bear before killing it."

Kulakosly, A. E., Materials for the Study of the Beliefs of the Yakut, *Memoirs of the Yakut Geographical Society,* vol. 1, Yakutsk, 1923, p. 57. (In Russian.) "The other bears take revenge for the bear killed during sleep, by attacking the sleeping hunter."

The dead bear is skinned as soon as he has been dragged from his den. Among the Kobıy (Shortsi District) it is customary for two of the oldest hunters to whip the bear, saying:—

“*ČaskIda čhadIjiŋnI körtüs čör,* Show your den in spring.
Küsküde KürunduguŋnI körtüs čör, Show a mound of snow on your den in winter.
ČajgIda čac ogarapdin alI con aliž čör, In summer go in back and in front of the children.
Kijige čabal šanaba čakšI čor, Think not badly of the man, go right.”

The Karga (Karcıt) clan say:—

“*Ulug, pidig kalanIn,* To the great officer the taxes
ČakšI tölöb odur, Well paid
Čaj polza alIsom alIš čör, When summer comes, (pan) behind me
Čas polza küründügüŋä pas čörein, When Spring comes, I'll go to your den. (I shall find it.)”

Among the Karga clan (in Anzas), it is customary for two persons to beat the bear, each taking three switches. They say:—

“*KIš polza alImnI kes,* In winter, when before me, cross my path.
Čai polza somnI Kes, In summer, when behind me, cross my path.

In the Ustj-Mrassu region (clans: Četti-Börü, Tartıkın, Chelei), when the bear is skinned, all those who are present must pretend to weep. In the Minussinsk District at the upper part of the Askisu River (Ulus Bay), the hunters, while dragging out the bear, pretend to weep and chant:—

“*Ulabam, uljem,* My grandfather, my grandmother,
Kaydi ül pardI, Why have you died?
Kol čazI kildibe, Did a hand to hand struggle come?
Pilek čazI kildibe, Did a war, the size of a man's fist come?”

While skinning him, they do not switch him, but say:—

“*Čaga pastIrdIŋ,* You went to war.
Idi sühün taštabinjäbis, Meat and bones we won't throw away.
En čirdi pozIbIs alčabis, We pile it up in a lonely place.
Siniŋ idi sühün tih (naprasko), We do not throw on the ground.
Čirge tostabinčäbis, Your meat and bones without purpose.
Idi cügün pis alčäbis, We take bones and meat.
Pis čibčäbis, We eat it.”

While lifting the dead bear, all the hunters says in unison:—

“*KabIškila, polIškIla,* Help, raise.
Udyg kiji söhün, The bones of the great man.
Kudaj slerhe algIš perer, Kudai (God) will send you blessing.”

Then they cut off his legs, saying:—

“*Og ulug kiji agaška pagIp čörüp,* Great man, in climbing up the tree,
AzaktarIn cIn partIr, Broke his legs.”

The Shortsi clan who live in the basin of the Kondoma River, having killed the bear, consider it their first duty to knock out his teeth, saying: “These are the teeth with which you devour all animals.” Then they skin him and cut off his head. Thereafter, they put the head on a stick of mountain ash,[21] and one of the hunters singes it over the fire while at the same time two others jingle their ramrods, saying:—

---

[21] A rod of mountain ash because the bear never breaks this tree.

"*KabraktI*[22] *yerde yörüp,* While walking on the earth with stalks
KolamčI[23] *aldIn-dep ait,* You received a present (a bullet), say!
PaltIrganIg yerde yörüp, While walking on the earth with stalks (of plants)
PajIn tala attIrdIm-dep, ait!, Your pate was crushed, say!
Kör polban karam kidiš, You could not see, your eyes were small,
Oldiη-dep, ait!, You could not defecate, your anus was too small,
Pok šiš kIyban kidiš bolup, You could not defecate, your anus was too small,
Oldiη-dep, ait! Therefore you died, say!"

After this song the stick with the singed head is thrust into the ground, the snout being turned toward the east; and each hunter shoots at it once. All other hunters who pass by, do likewise. The hunters of the Chelei clan (Shortsi District) also knock out the bear's teeth. Then they skin him and cut off his head. At the same time they remove the heart and search it for a human hair or for some trace of one. If they find one this indicates that the bear has devoured a human being. In this case the flesh, the head, and the skin are burnt. If, however, they convince themselves of the bear's innocence they set the head on a rod of mountain ash and beat it with ramrods, chanting:—

"*Yerbit yerbitiη-dep aj*[24] *oldiη,* You climbed up the tree after some foul berry and fell down and died.
Yilek yigen-dep Kayadaη aj oldiη, You ate berries, fell from the rock and died.
Soygu yidim-dep aj oldiη, You ate sorb berries, fell and died.
Karat yidim-dep, You ate raspberries,
Sastaη saska padIp, oldiη . . . , Drowned in the swamp and died.

After this the head is either thrown away or carried home.

The Tubalar, the inhabitants of the forest region of the eastern Altai, also knock out the teeth and pound the head of the slain bear. The Kalar clan (Shortsi District) strike the head with an axe, and they shoot at it after having knocked out the teeth. Though the rites of a series of tribes and clans are characterized by evident enmity toward the slain bear, their general position in this case also has elements of fear.

Thus, for example, the Chelei when returning to their camp from a successful hunt, are accustomed to place sticks across their ski tracks (in order to stop the pursuing soul of the bear), or they draw circles on the snow with the same intent.[25] Then they expect to be freed from pursuit by the dead bear. The bear's soul (*Mokai KarazI*) like the human soul is apt to wander all over the forest for three days after death. It may strangle a man. When it appears, the fire in the hut dies out and the dogs bark uneasily.

While barring the tracks, the Chelei clan usually say:—

"*Bistin yolI kelibe,* Do not walk on our road.
AgaštIη aj oldIn-dep, ait! Having fallen from the tree you died, say!"

The Shortsi do likewise.

---

[22] *Kobrak,* the stem of an umbelliferous plant.

[23] *Kolamchi,* a present from the bridegroom to the bride. In this case it refers to the bullet which has been shot at the bear.

[24] This is the abbreviated form of the conjunction ajIp.

[25] The primitive approach to the conception of "soul" is of great interest here. It is thought of as something material, which cannot cross a material boundary, for example, a stick, or if it should enter on a line which is enclosed by a circle it would have to rotate in one spot.

Whenever the Tubalar return to their camp they shoot in the direction of the place where they have killed the bear, in order to frighten away his soul. They chant:—

“*Urgučakčl bajln,* Your head is of the size of a ladle,
Učukča tlŋlŋ üstübüs, Your soul is of the size of a thread.
Tüš bolzo sagljlma kirbe, Do not enter my soul by day,
Tünde bolzo tujama kirbe, Do not enter my dreams by night.”

The Kalar (Shortsi District) also bar their tracks and shoot toward the place where they have killed the bear, saying:—

“*Kolamčl ber yarlm,* I am giving you a present.” (The bullet.)

Among the Yakut[26] it is customary for all those who have participated in the bear hunt, after the animal's death, to dring a cupful of its warm blood, to eat a piece of the raw liver, of the heart, and of the fat; then as they turn their eyes to the sky, they must exclaim three times “*Ukh*” (*ux*). Only after this are they safe from the revenge of the bear.[27]

The use of bear meat as food is rather common among the Turkish tribes of Siberia. We know only of a few exceptions. There is evidence that the Uriankhai do not eat bear meat, because they consider the bear a human being.[28] According to N. B. Sherr,[29] the Kumandintsi do not eat it because they consider it “unclean.”[30] The Kumandintsi do not mind eating hare, squirrel, but do not eat polecat meat (“it has a penetrating odor”), and they also do not eat bear, saying: “this is an unclean animal.” Unfortunately, Mr. Sherr does not give any further information. His account is unconvincing, since the Kumandintsi are surrounded by Turkish tribes that do eat bear, such as the Turks of the northern and northeastern Altai. The Yakut consider it a sin if the meat of the bear is not eaten by the person who caught him; therefore the greater part of the animal is eaten by the hunters on the spot when he has been killed.[31] When the bear's carcass is cut open (Kobı), a blood vessel is taken out from the abdomen (*Markazl*). It is broiled, and then the people, one after another, touch their own lips with it. After that they snort and roar in imitation of the bear. During this ceremony the following is said:—

“*Koburak pajln kozlrada taynaježeŋ,* The top of the spring plant noisily chewing.
Maltlgan pajln mačlrada taynejeŋ, The top of the summer plant noisily chewing.
Čaygl künde all son allš čör, On a summer day walk before and behind me, on a winter day.

---

[26] Seroshevsky, *ibid.*, p. 123.

[27] Among the Yakut there is another interesting ritual phase. After the bear has been killed, seven or nine trees are chipped once with an axe, and all of the trees, excepting the last one, smeared with bear's blood. To the last tree they say, “We shall smear you the next time.” (Told by A. Popov.)

[28] Katanov, N. F., Among the Turkish Tribes, *Reports of the R. G. S.*, vol. XXIX, St. Petersburg, 1893, p. 521. (In Russian.)

[29] Journeys to the Kumandin, 1898, *Altai Materials*, vol. V, 1903, p. 112. (In Russian.)

[30] *Ibid.*, p. 97.

[31] Maak, R., *The District of Vilyui of the Yakut Region*, Sec. III, St. Petersburg, 1887, p. 110. (In Russian.)

Küškü künde öbüzunün köründü, I will walk near the mound of snow of your den."
Guŋga pas čörein.

The blood vessel is thrown into the fire. Then they cut off the bone of the tail (*Kuzruk söögü*) which is then stuck up on a rod and broiled. One hunter after another bites at it, repeating the same words.

The hunters of Ansas bite at the blood vessel (*tartIkIsh*) and each must eat some part of it, saying:—

"*MaltIrganin taŋga,* On a mountain with dry stalks walk with resounding tread.
TazIrada pas čörb otur, On a mountain with meadow-sweet walk with resounding tread.
TabIlgattIŋ taŋga, On the way to your fathers, join them."
MIčIrada pas čörb otur.
AdalarInga parIp katkIš.

The hunters of the Karga say:—

"*Čäs polza čadIyInga,* To his resting place in spring.
Küs polza küründügünu, To his den in autumn.
Pas čörein, I shall go.
MaltIrganIn tagdI mačIrada, With autumn plant arouse the mountain.
KobIraktIn, tagdI kocirada, With spring plant arouse the mountain.
ČaigIda alI som alIš čör, In summer walk in the background.
Olgan uiaktI korgIspajan, Do not frighten the children.
Tigi ponu čIstaštIrbajan, Do not sniff, neither here nor there."

On the lower course of the Mrassu River:—

"*KobIraktIg tagdI kočIrada,* On the mountain with stalks of plants
Paskan azagIŋ, Rustles your treading foot.
MaltIrganIg tagdI, With the stalks of plants
MačIrda paskan azagIn. Your treading foot rustles.
Tagdaŋ ulug tayIm, From the mountain you are, great uncle,
ČIŋ piske tarInma, Do not be angry with us,
Po kal, Stay here."

The broiled blood vessel is sometimes eaten by one person only or by two or three people who roar and say:—

"*KobIraktIn taŋnI kozIrda pas čör,* The mountain covered with stalks of plants pass with crackling.
TabIlgattIŋ taŋnI tazIrada pas čör, The mountain covered with meadow-sweet pass with rustling.
Püdin kalanIn tölep čaŋma?, Have you paid the tribute to the (Russian) chief officer?"

The Shortsi broil the heart on a broiling rod, then they throw the lungs on the snow where they have killed the bear. The Tubalar eat the heart only. The shamanists and Burkhans of the Altai bury the heart and the head together.

The Yakut,[32] after having killed the bear, tear out the warm heart from the body and swallow it raw in small pieces, and they croak like ravens: "khakh, khakh." According to Kulikovsky, it is customary to give young hunters a taste of fresh bear blood. They moisten the finger in the wound and lick the blood. When approaching the cooked meat the young hunters must croak like ravens. They perform over the bear's carcass some movements resembling those of sexual intercourse.[33] The eyes of the dead bear are also removed. The Shortsi believe that the hunter who has swallowed the eyes, will not fear the bear any more; on the contrary, the bear will fear him, since the hunter will appear to him as a bear. The Chelei also swallow the bear's eyes. Later on, the hunter tries to find out whether the eyes have been digested. If they have been digested, it is supposed to be a bad omen; the hunter will have a short life. If they were not digested, a long life is predicted. The Kalar swallow the bear's eyes in order not to be assaulted by the bear.

---

[32] Told by A. Popov.

The Kobɪy try to swallow the bear's eyes (especially are young hunters required to do so). Whoever succeeds will be a successful hunter.

Among the Sagai the eyes are taken out in order that the bear may not see the people any more. The hunters swallow the eyes to gain courage. If a bear should meet such a man he would see the eyes in him (for a bear sees everything), and he would fear him and would not touch him.

The Yakut do not allow anyone to destroy or to pierce the eyes of the bear, otherwise the hunter's eyes would run out.[34]

The Kobɪy boil the bear's tongue for a long time and stir it gently that he may not complain to the spirit, Kayrahan. The Tubalar cut off the tip of the tongue and throw it away, evidently for the same purpose.

The Karga do not eat the bear's head, but burn it. Thereafter one of the hunters collects the bones of the skull in a pile and says:—

> ''*Ulun kiji agaštaŋ ajIp,* Great man, falling from the tree
> *PajI sabIl, partIr,* smashed his head.''

or:—

> ''*Pletke torum čirge pagIp,* He climbed the cedar to eat the cones, later
> *Anaŋ agaštaŋ aš partIr,* In climbing down the tree you fell down and then
> *AnaŋpajI sabIl partIr,* smashed his head.''

First the hunter assembles the bones in wrong order and asks of all those present: ''*Pede bol?*'' (Is it all right?'') Then the others answer: *Čhok, ede ebes.* (''No, not this way.'') Then he assembles them the second time: ''*Aja pede bol?*'' (''Maybe this way?'') He is again answered: ''No, not this way.'' Finally the third time, he joins them properly; and his question, ''*Ede bol?*'' (''Is this the way?'') is answered by all: ''*Eh, eh, ede poltyr ol*''; (or) ''*ede ol.*'' (''Yes, yes, this is correct.'') After that the bones are tied with twigs of mountain ash and the head is tied to a fir tree. The Kɪy suspend the head on a broken fir tree and draw a branch through the mouth.

The Kobɪy suspend the head by its lower jaw on a pointed stick of mountain ash with the snout facing east, so that the bear may not be angry at human beings; but without looking at them he should walk directly westward (to the region of death). Among the Telengit (Altai) the head is placed on the ground, the lower jaw is removed, and then purposely attached to the skull in a wrong position. The hunter asks: ''*MondIy ba?*'' (''This way?'') Then he answers himself: ''*Yok.*'' (''No.''). He repeats this procedure once more; the third time he places the jaw in proper position, asking, "*Aiza mondIy ba?*" ("Perhaps it is right now?") And again he himself answers: "*Ta, bajla mondIy, kemyok, salar.*" ("I do not know; it seems all right; it will do, put it on.") Then he puts the head into a hole dug in the ground for that purpose, so that the snout faces the east, and the head is finally covered with branches and earth. It is now allowed to walk over the grave.

---

[33] Kulikovsky, *ibid.*, ''So that the young hunters may not be afraid during the next hunt and that they should not be weak in the struggle with the bear.''

[34] Told by A. Popov.

The Karga plug the bear's nostrils with a lichen before suspending it from a tree. Then they say:—

"*Cen ayu mäni körzö,* (O) bear, if you should see me,
Korkup yurt-dep, Go away frightened.
Men seni körzöm, If I should see you,
KorkubasIm-dep, I should not be frightened."

Some other Tubalar also bury the head and then put a log on top of the mound, saying:—

"*YaskI künde yadIna yasIn,* On a spring day lie beneath the log,
Küskü künde köröntikine yasIn, On an autumn day lie before the den."

The Sagai suspend the head and thrusting a stone into the mouth, say:—

"*Pir karagIn tigir körzin,* One eye sees heaven,
Pir karagIn čir körzin, Another eye sees earth.
Pir kulagIn tigir tIηnIzIn, One ear hears heaven,
Pir karagIn čir tIηnIzIn, Another ear hears earth."

The Karagas, having killed a bear or any other animal, raise its head and heart on a piece of bark towards the sun asking that all their needs be satisfied. After that they eat the sacrifice.[35]

The Kachinsti[36] skin the head, suspend it on a branch and fill the mouth with hay or grass.

The Karagas,[37] having killed a bear, bury the head with reverence.

The Soyot[38] hang the lower jaw of the bear on a tree or on a big pole close to the highway. Every passerby, whether walking or riding, bows, saying "*Xaierxan urša.*" ("Be merciful, O bear.") Thus he removes any danger from other bears. The Tubalar also suspend the lower jaw on a tree.

The Soyot forbid stepping on or over the bear's head.[39] Formerly the hunter used to keep the bear's nostrils in his hut. The Yakut do not leave the head with the rest of the bones on the benches (*arañas*), but carry it home[40] with them; or, the skull, from which the meat has been gnawed off, is hung on a tree, out of respect to the grandfather bear.[41]

---

[35] "The head is raised towards the sun." Georgi, *Description of all Peoples residing in Russia.* St. Petersburg, 1871, vol. III, p. 19. (In Russian.) Pallas says: "thrown up towards heaven." *Travels over Various Provinces of Russia.* St. Petersburg, 1770, vol. III, part 1, p. 424. (In Russian.)

[36] Told by V. Serebriakov.

[37] Preliminary Report on the Excursion of D. A. Klementz into the Regions of Atchin and Komsk, *Report of the East Siberian Section, R. G. S.,* Irkutsk, 1889, vol. XX, no. 1, p. 55.

[38] Preliminary Reports of the F. Kohn Expedition to the Uriankhai Country, *Reports of the East Siberian Section, R. G. S.,* Irkutsk, vol. XXXVI, no. 1, Irkutsk, 1903, p. 37; Grum-Grjimailo, *ibid.,* p. 52.

[39] Grum-Grjimailo, *ibid.,* p. 37.

[40] Maak, *The Viljui District of the Yakut Region,* part III, p. 108.

Among the Turks of Minussinsk every young hunter must eat of the bear's head, that he may be successful in the future.[42]

The meat of the bear is divided into two parts. The hunter who fired the first shot is given the chest meat. The bones of the bear are not thrown into the fire. If this law is not adhered to, no member of the party will ever find another bear. While the bear meat is being cooked and served, they say: "This is an offering to the guests, a holiday of the great man." (*Ulug kijiniŋ toyI*) (among the Kobıy).

The Karg̣a make merry and say:—"*Ulug kiji togaškan üjün toyI polIbokča.*" "Because of meeting the great man, a feast is held."

In Ansas (Shortsi District) a small piece of each part of meat is broiled on a spit (called *marsa*). They say:—"*Uluŋ kijiniŋ toyu.*" "A feast for the great man." When this meat is broiled over the fire, and the fat flows off, and the smoke rises, they say:—"*UlabaštIn, odung̣a čIiIng̣ila.*" "Warm yourself over the fire of the grandfather."

Among the Sagai funeral feasts are held for the bear as if for a human being (*tün sagIñča,* the day before the burial). They drink, sing, and eat the whole night through. The hunters believe that the soul of the bear is present and hears and sees everything. The better the celebration, the more kindly will be his treatment of the hunters. He will feel satisfied and will not take revenge. Sometimes they also weep and say: "The old man, my grandfather, died." Or, "The old woman, my grandmother, died."

The Kachintsi do not break the bones, but separate them at the joints.[43] The Yakut,[44] when they carve the carcass, also disjoint the bones and never crush any of them. No bones may be carried into the hut. The bones are placed upon a special platform (*araŋas*) built on four supports. Among the Yakut no woman may touch bear meat with her hands nor may she eat it; otherwise her milch cows will cease giving milk.[45]

Among the Yakut[46] the gods are addressed while the guests eat bear meat. "Nay," they say, "do not accuse us of having committed such a murder. Among us, the poor Yakut, the art of making guns and deadly bullets is not known. Probably some Russian or Tungus caused his death." Since it is customary to preserve the bones, they say: "We are no murderers; we have even put in order the bones of the bear killed by others."

Most of the rites observed result from the representation of the bear as a kinsman, and these rites repeat much of the burial rites of his relatives—men.

---

[41] Kulikovsky, *ibid.*, p. 96.

[42] Korotanov, E. E., Manuscript in the Minussinsk Museum, *The Katchintsi;* Orfejev, The Superstitions and Prejudices of the Tribes in the Minussinsk Region, *Yenisseysky Eparchial News*, 1886, p. 46. (In Russian.)

[43] Told by V. Serebriakov.

[44] Ionov, *ibid.*, p. 51.

[45] Hallowell, *ibid.*, p. 58, reference to Galitzyer.

[46] Pripuzov, N., Materials for the Study of Shamanism among the Yakut of the Yakutsk Region, *Reports of the Eastern Siberian Section, R. G. S.*, vol. XV, part 3–4, 1884, p. 50.

Observing as they do, when hunting, the habits and customs of the wild beasts, these tribes attach to them the attributes of men, and the faculties of the animals seem supernatural to them.

The bear, whose outward appearance has in particular stimulated the human imagination, is considered apart and different from the other animal groups and is held in awe and respect. In the dense forests of Siberia, even now, man still fears the bear more than anything else. Even during the chase, hunters flee, panic-stricken, from his terrifying roar and anger.

On the Aldan River, a group of hunters once started out to slay a bear which held sway over the neighboring land and which had already torn to pieces a traveling merchant. When this bear suddenly attacked the hunters, all forty fell before him, crying out: "Stay! do not be angry." Only three experienced hunters among them, crouched on their haunches, hidden by a mat, aimed their guns, but even these yelled: "Stay! do not be angry." *"Ulu toen! ulu toen!"*[47]

This terrible animal attacks humans very infrequently. He does not touch weak women. (Among the Yakut, the women show him their breasts.)[48] Those who speak derogatorily of him, are visited by his wrath, and have his cruel vengeance wreaked on them.

The Kalar (Shortsi District) believe that a man slain by a bear must have cursed this bear at some time during his life.

In Anjul, a Russianized settlement consisting of emigrants from Kuznetskaye Taiga, in the winter of 1927, during a bear-baiting chase, an old experienced hunter was carried off to his den by the bear. His fellow-hunters, having injured the bear, fled in all directions. Shortly thereafter they gathered at the den and found the dead body of the bear on the body of the dead merchant. The significance of this occurrence was fully discussed by the participants in the hunt and finally the universal conclusion was that the old hunter must have spoken disrespectfully of this bear and must have killed many other bears during his lifetime and that therefore this bear had taken revenge for all.

There is a saying among the Yakut that a person who kills many bears will eventually be killed by one of them.[49]

Sometimes a bear, on meeting a person, appears to ridicule him; he lies down near him and does not attack him; but he does not permit him to pass, and may keep him so for a whole day. This same belief is held by the Shortsi. When meeting a bear, they recommend tipping the hat and bowing as they say, "Go your way, Revered One."

Among the Teleut,[50] the elders advise the youths never to resist a bear when meeting one, but to look it in the eye and say, "Uncle, you are great. You only frighten children; what do you want? Why do you wander here? Take the right road and go."

Among the Yakut[51] there is a formula of supplication which is believed to placate and pacify a bear. "Grandfather, (or grandmother) I have never trod on your broad footprints; neither I nor my ancestors have ever wandered over your long roads; soften your anger; I am a complete orphan; I am completely miserable, I am laden with sadness. Oh, if you would retreat to the depth of the forest, disappearing in the space made by two (upright) boards! Oh, if you would move aside, a sole's distance! If you would soften like the liver of Nalime. If you would soften like the fur of a sable.''

---

[47] Seroshevsky, *ibid.*, p. 658.

[48] *Ibid.*, p. 659.

[49] *Ibid.*, p. 659.

[50] Told by L. E. Karunovskaya of the Museum of Anthropology and Ethnography of the Academy of Sciences in Leningrad, 1927.

[51] Ionov, *ibid.*, p. 53; Kulikovsky, *ibid.*, p. 57. "When a wanderer meets a bear he bows before him and implores him audibly not to touch him since he is unarmed."

On the other hand, it is not permitted, on meeting a bear, to show fear; the bear observes the feet of the traveler, and if they tremble, he attacks him. It is also prohibited to flee from the bear. It is recommended to converse with the bear, and still better, to shout as loud as possible. The close resemblance of a skinned bear to the human body makes a great impression on the hunter. Katchin Tartars compare the dead bear with a dead man.[52] The Yakut compare the dead bear with a woman.[53] This resemblance has been the source of a number of tales among many tribes relating to the origin of mankind from the bear, and also of tales dealing with the transformation of man into a bear. It is interesting to note that no tales are known which concern similar or reversed changes of bears into men.

The Yakut say on the body may be seen women's ornaments. The trinkets previously worn by a woman have left their impressions on the bare and worn areas in the fur, corresponding to the usual position of feminine finery.[54]

A woman, just before her transformation into a bear, would, on her arrival home, begin to avoid people, to hide, and finally go off to the forest.

According to information supplied by Kulikovsky[55] a pregnant woman changed into a female bear and gave birth to two cubs. Among the Yakut, we have a similar variant of this tale.

Once upon a time there lived a Yakut merchant, who was not rich, but a splendid trapper of bears. His wife, noticing that he was in the habit of returning too soon from his hunt laden with great numbers of trophies, became suspicious that his catch was not obtained in the woods, but furnished by a clandestine lover, and decided to watch him carefully. Once, as he left for the hunt, she followed secretly. Having reached the densest part of the woods, she noticed that her husband jumped three times over the trunk of a fallen tree and transformed himself into a huge thickly-furred bear. She followed his example, and became metamorphosed into a she-bear and followed him. They never returned home. These two became the ancestors of the bear.[56]

The Karagas[57] have three variants of this narrative. The grandfather bear was a human who had a younger brother with whom he quarreled. The younger brother became the Tuba-Karagas, and the older became the grandfather bear. Another version is that a fisherman threw his net and caught the Spirit-of-the-

---

[52] Karatanov and Popov, The Kachintsi, *Reports, R. G. S.*, vol XX, Series IV, St. Petersburg, 1884, p. 6.

[53] Seroshevsky, *ibid.*, p. 660; Ionov, *ibid.*, p. 52.

[54] Ionov, *ibid.*, p. 51.

[55] Kulikovsky, *ibid.*, p. 58; Pripusov, *ibid.*, p. 50: ''The bear was a human being and was transformed into an animal.''

[56] Seroshevsky, *ibid.*, p. 660.

[57] Katanov, N., *A Journey to the Karagas in 1890.* St. Petersburg, 1891, pp. 29, 67. (In Russian.)

Water. The brother of this man was the grandfather bear who constantly fought with this spirit and forced him to remain in the water and to give man fish. The third version is that three brothers of the Chogdu were fishermen. Once the eldest became angry and threw his net on a tree. He went into the forest and became a bear.

Among the Uriankhai[58] there is a belief that man turns into a bear because of vodka. (This version is probably the most modern one.) Or Ärlik-khan turns him into a bear; or two people who desire to become Ärlik dress themselves with their furs turned inside out and lick each other in imitation of bears, and become bears. A fourth variant has been recorded by Potanin.[59] Djelbaga, who was accustomed to eat human beings, had devoured all but one old man and his wife whom he also wanted to devour. These two, however, escaped. The man hid in the forest and became a bear. That is the explanation for the human intelligence of the bear and the close resemblance of his footprints to that of man. (Uriankhai.)

The Shortsi say that the bear is derived from man. Therefore man does not eat "bear's head." There is a story of a woman who went into a forest and turned into a bear. In her absence, her clothes were torn and she could not be transformed into a woman again. She remained a bear. Her anger causes her to take revenge on all mankind.

Yadrinzev,[60] discussing the anthropomorphism of these tribes, points out, among other things, the story of the bear who was previously a human being. Verbitski[61] writes about the Altai tribes, who also have stories of similar metamorphoses. For example, the bear, as a man, was very strong but simple, and ate very much, so that his family scolded him. Once, while angry because of these reprimands, he took a rope and went to the forest to gather wood. He did not return, but changed into an animal (bear). The rope is still hanging on the trees. (This rope forms the intricate network of the vines of the hop-plant.) On the forepaws, just above the claws, may still be seen the signs of woolen bandages worn by him on account of rheumatic pains.

D. A. Klementz[62] gives the following data for the region of Minussinsk. Three brothers, fishermen, were quarreling. The middle one (Ireze) went into the forest and turned into a bear. The youngest (Sulbigur) remained a human being.

Korotanov and Popov[63] tell the story of the two brothers who lived alone in the world. One struck upon the notion of becoming a bear. It is said that he effected the transformation by cutting himself with knives and rolling on the ground. The second brother remained a man. This accounts for the resemblance of bear and man. The bear himself realizes this similarity of appearance and when meeting a man, he is embarrassed when looking straight into his eyes.[64]

---

[58] Katanov, N., *Prototypes of Folk Literature of the Turkish Tribes.* St. Petersburg, 1907, vol. IX, pp. 16, 18, 33. (In Russian.)

[59] Potanin, T. N., *Sketches of Northwest Mongolia.* St. Petersburg, 1881, vol. IV, p. 167. (In Russian.)

[60] Altai and Chern Tartars, *Reports, R. G. S.*, vol. XII, 1881, p. 229; and *Memoirs of the Western Siberian Section, R. G. S.*, Book IV, Omsk, 1882, p. 41. (In Russian.)

[61] *The Altai Tribes.* Moscow, 1893, p. 137.

[62] Klementz, D. A., *ibid.*, p. 55.

[63] Karatanov and Popov, *ibid.*, p. 647.

Among the Sagai,[65] the bear is considered to be a transformed human being. Among the Osman Turks[66] there is also a story of the change of a human being into a bear. All these tribes believe also that the bear is a distant ancestor. We know already that the Karagas[67] believe that the bear was a brother of their ancestor, Chogdu.

Klementz[68] relates a story of the Karagas in which the bear is described as the brother of the tribal ancestor.

Some Siberian Turkish tribes claim to be direct offspring of the bear. Thus, for example, the Kara-Teles,[69] who live in Pele on the eastern shore of Lake Teletz, regard the bear as an ancestor. Some tribes in the region of Biisk and Kuznetsk also derive their origin from the bear.[70]

The Uriankhai call the bear the father of all humans.[71]

Among the Yakut,[72] when a woman meets a bear, she says, "I am your sister-in-law."[73]

The names given to the bear point to a similar conception among the Siberian Turks. The Shortsi call the bear maternal uncle, paternal uncle, or grandfather (*aba*).

The Altai call the bear paternal uncle (*abagai*). The Teleut call him maternal uncle (*tai*). The Sagai (Ichege tribe) call him either father or grandfather (*ulabam*) or grandmother (*uljem*). The Karagas say,[74] grandfather (*ire*); the Uriankhai say, grandfather[75] (*irey*).

The Yakut[76] call the bear *ece*, grandfather; *ebe*, grandmother;[77] beloved uncle, and good father.[78] Among the Altai, he is called father (*aba*).[79]

In all the stories dealing with the transformation of the bear, man looks upon him as a brother, an older brother, and regards himself as lower than the bear. (It is known that age plays a great rôle in the life of these tribes.) That is why, even now, they respect and value the bear as of a higher order, as a tribute to his supernatural qualities.

---

[64] Katanov, N., Among Turkish Tribes, *Reports, R. G. S.*, vol. XXXIX, Series IV, 1893, p. 521.

[65] Katanov, *Prototypes*, etc., vol. IX, p. 559.

[66] Gordlevsky, Vl., Osman Superstitions about Animals, *Ethnographical Review*, vols. XXXIV–XXXV, 1901, no. 1, p. 179.

[67] Katanov, *ibid.*, p. 524.

[68] Klementz, *ibid.*, p. 55.

[69] Potanin, *ibid.*, vol. IV, p. 9.

[70] *Report of the Altai Spiritual Mission*, Biisk, 1865, pp. 38–40.

[71] Katanov, *Among Turkish Tribes*, p. 521.

[72] Seroshevsky, *ibid.*, p. 659.

[73] Ionov states that the woman calls the bear her daughter-in-law. Bibliography of the Religious Ideas of the Yakut, *Living Antiquity*, vol. XXIII, 1914, p. 369.

[74] Katanov, *Among Turkish Tribes*, p. 521. Also by the same author: *A Journey to the Karagas in the Year 1890*, p. 14, "The bear is a woman who went away into the woods."

[75] *Preliminary Report on the Expedition of F. Kohn, ibid.*

[76] Seroshevsky, *ibid.*, p. 658; Troshtchansky, V., *The Evolution of the Religion of Black Magic among the Yakut*, Kasan, 1902, p. 55. (In Russian.)

[77] Ionov, V., *The Bear in the Beliefs of the Yakut*, p. 51.

[78] Hallowell, *ibid.*, p. 49.

[79] Verbitzky, *ibid.*, p. 128.

Potanin and Yadrinzev somewhat exaggerate the rôle of the bear as a supernatural being. However, both agree on the principal opinion that the bear is similar to or was once a man. So Potanin[80] writes in this connection:—

> "The Siberian tribes believe that the bear is a human being who is only dressed in an animal's fleece. He is not simply a man, but of a higher order. He is gifted with unusual strength. First, he is the favorite of the gods, dwelling among men, condemned to wander in the woods. Second, he is an 'orphan-savage' who lost his relatives during childhood, and who grew up without human society. Third, he is a hero who was driven out of society because he was a source of discomfort."

Yadrinzev[81] states that bear worship arose from the naïve conception that the bear resembles man and understands everything and, in addition, is a being of a higher order. Thus the bear appears to be a mythological being and plays the rôle of a semi-god.

Among the Siberian Turks and the Mongolians the bear is respected and feared, even at the present time.

All these tribes believe that animals and particularly the bear, hear and understand human language. Indeed, the Shortsi believe that the bear can hear human talk when he puts his ear to the ground. They say: "The ground carries it to him."

His hearing is especially acute in winter when there is no humming of mosquitoes, etc. When the bear is hunted, he will recognize among ten hunters that individual who spoke disrespectfully of him and will take revenge. It is forbidden to take the bear's name in vain since he may hear it and appear. A meeting with him in the forest is something which is highly dreaded and feared. The Shortsi say: "Why call him in vain? He will hear the call and come without fail."[82]

The Altai also believe that the bear can hear through the earth.[83] The Uriankhai say: The bear's ear is the earth.[84] The Yakut believe that the bear very easily understands man's speech, especially during his winter sleep and takes vengeance on those who speak ill of him;[85] hence, the respectful and timorous regard for the bear. The Shortsi, Altai, Uriankhai, never mention the name of the hunter who killed a bear, never permit any bantering regarding the beast, and never brag about the success of the hunt. To find a bear quickly when hunting, the Yakut abuse it on purpose, and thus make it wish to meet them.[86] In the opinion of all these tribes the bear is just. The Yakut say that the bear is as wise as man, even wiser; he knows and understands everything, and if he does not speak, it is only because he does not want to.[87]

---

[80] *North Asiatic Legends about the Son of Heaven, ibid.*, p. 12.

[81] *Bear Worship, especially among the Northern Tribes*, p. 103.

[82] *Cf.* Katanov, Stories of Animals understanding Human Language, *Reports of the Historical and Ethnographical Society of Kazan University*, vol. 14, 1897–1898, p. 255. (In Russian.)

[83] Yadrinzev, *ibid.*, p. 3.

[84] *Preliminary Report of the Expedition of F. Kohn*, p. 37.

[85] Seroshevsky, *ibid.*, pp. 658, 610; Kulikovsky, *Materials for the Study of Yakut Belief*, p. 58.

[86] Ionov, *ibid.*, p. 52.

[87] Pripuzov, N., *Material for the Study of Shamanism among the Yakut*, p. 50.

In this relationship to the bear is included the prohibition of calling him by his common name, especially while on the hunt.

Tribe	*Common Name of Bear*	*Name of Bear during Hunt*
Teleut, Altai, Forest-Tartars near Lake Teletz[88]	*ayu*	*aŋ*, animal; *kara*, the black one; ''he'' or ''old man'' or ''the revered one''[89]
Shortsi	*apšak, apšIyak*	*azIḡ*, the furious animal; *aŋ*, animal; *adalIḡ*, the revered one; *uluḡ kiji*, great man; *maymak*, bear's paw; ol, he; *karasok*, the terrible one
Sagai	*aba*	*aŋ*, animal; *azIḡ*, the great one, the mighty; *ulug kiji*, the great man; *kara*, the black one; sometimes *apčak*
Katchin-Tartars	*apčak*	*tirton*, sheep's skin[90]
Karagas	*ire*	*karan*,[91] the brown one
Uriankhai	*adIḡ*	*kara djume*, black objects; *adIḡ*, the revered; and the Mongol term *madjalay*[92]
Yakut	*äsä*[93]	*arḡabastax*, who has the fur coat; *aragaxtax*, who has the den; *tIataḡI*, he from the woods; *agIrga*, the fierce one; *nakaiban* (a Novgorod record, not translated);[94] *kōk*, the black one;[95] *on*, sir, a respected old person;[96] *ogonyor*, an old man;[97] *tIa toIono*, master of the woods; *xarakIl*, black animal[98]

The basis of the bear myths of the Turkish tribes of Siberia is the abduction of a woman by the bear. Often the bear has a son born to him, semi-human and semi-animal.[99]

Among the Shortsi of the Kuznets Taiga and the southwestern part of the region of Minussinsk (emigrants from the Taiga) and also among the Altai, the story usually begins with a woman (or a maiden) entering the forest to dig the root *kandyk*;[100] or to gather berries (Yakut[101] and Sagai);[102] or to fetch water.

---

[88] Radloff, W., *Sketch of a Dictionary of Turkish Dialects.* St. Petersburg, 1909, vol. I, pp. 218, 223, 367, 489; Verbitsky, W., *Dictionary of the Altai and Aladay*, pp. 5, 10.

[89] Yadrinzev, *ibid.*, p. 111.

[90] Korotanov and Popov, *l. c.*, p. 657.

[91] Klementz, *Information about the Expedition*, etc., p. 55.

[92] Katanov, *Journey to the Karagas*, p. 14.

[93] Kon, *l. c.*, p. 37; Grum-Grjimailo, *l. c.*, p. 51.

[94] Ionov, *l. c.*, p. 51.

[95] Seroshevsky, *l. c.*, p. 658.

[96] Hallowell, *ibid.*, p. 49.

[97] Dioneo, *In Far Northeast Siberia.* St. Petersburg, 1895, p. 23.

[98] Maak, *l. c.*, vol. III, p. 109.

[99] There is a Yakut legend that a pregnant woman was metamorphosed into the first female bear who gave birth to two bear cubs. Kulikovsky, *l. c.*, p. 58.

[100] *Erythonium Sibirica.*

[101] Seroshevsky, *l. c.*, p. 659.

[102] Katanov, *Prototypes*, etc., vol. XI, p. 543.

The bear carries her off to his den. The Sagai place the den in an old abandoned hunter's tent. The woman cohabits with the bear during certain intervals only, in winter or spring. When the bear leaves his den at the termination of his hibernation, the woman leaves him; or the term of her cohabitation may be prolonged and she gives birth to a son. In the Yakut tale she lives with the bear for three years and forgets her mother tongue.[103]

In the Sagai tale, the woman learns the bear's language and gives birth to three children. The bear feeds her with game (in the Shortsi version, with berries and honey as well). He brings berries for her children (Sagai). He keeps her warm with his body, but does not allow her to approach the doorway. Among the Yakut, she is said to escape from the den; among the Sagai, a hunter who stumbles on the den, carries her off. Only in the Altai legend[104] is she found by hunters who return her to the village against her will.[105]

In one version of the Shortsi tales, the bear follows the woman who has fled his den. (Among the Sagai, he pursues her almost to the village and the brothers of the woman make him retreat and protect her from him.) In other stories, on the woman's return, they go to find and hunt the bear. In the Sagai tale, the woman is hidden in a trunk and the hunter who brought her back, summons the villagers, saying: ''Beware of the bear who carried her off, and shoot him!''

The people who gathered around him, shoot him with their rifles. At home in her tent, or less often in the bear's den, the woman[106] gives birth to a son; in another version, to two children, one a male, the other a female. In the Sagai legend she gives birth to three children.

The child is described in many ways.[107] He is either half naked and half covered with fur or half animal and half human. In this connection it should be noted that the term ''half'' means, in some stories, a vertical division, and in others a horizontal one.

Sometimes they say neither animal nor man. The Sagai legends have it that the people who carry the children from the den find the legs and hands and head human, only the trunk is covered with fur. In Altai legends the bear's son is different from human children. His hands are like a bear's paws, his face and feet are human. Thus we see that the story tellers have difficulty in establishing a definite proportion between animal and human components in the bear's offspring.

Some tales end with the birth of the bear's son. Others relate his further fate. In the Kuznets Tagai version the latter part becomes blurred and shadowy.

The tales of the Yakut, the Sagai, and the Altai, in general lack this part. Those of the Sagai terminate with the story that the relatives of the woman kill the bear's son. In the myths of the Shortsi, the bear's son either continues to live in the den, or the bear-father orders the children to retreat to the mountains as a punishment for scratching the mother's breast with their claws. The bear says: "You are forest-people. Go to the mountains." In those versions in which it is related that the bear's son is born in the mother's village, he nevertheless returns to the forest and does not return. In some legends he leaves the townsfolk because of the scarcity of the food supply. In others he goes out to fight against his father, the bear.

---

[103] Seroshevsky, *ibid.*, p. 659.

[104] Notes of the University student A. I. Novikov (1928).

[105] The wording of the text is of interest; the narrator makes a critical remark: ''Another woman would have run away in order to be saved, but this woman did not move.''

[106] A Shortsi legend.

[107] Shortsi legends.

In another series of legends it is related how the bear's son grows up and feeds his mother. He brings her hives of wild bees and leads other bears to her relatives to be killed. The mother ties a ringlet of iron to her son's paw (in other stories, leather bands) and he leaves her to enter the woods. A year later, when going through the fields, she meets her son, the bear, who sits by the roadside waiting for her. He implores her to remove the iron ringlet or the bands. After this has been done, he goes back to the dense forest forever.

In still another version, the mother endeavors to rid herself of her bear son by imposing impossible tasks. She has him fell trees with a wooden axe, scoop water with a sieve, etc. Tired and deceived the son cannot bear this torture any longer, and as the narrative says: "Weeping, weeping, he flees into the dense forest (taiga)."

Thus we see the bear's son play the rôle of a human being (it is told that three days after birth, he begins to talk the human language) and also that of a bear (he scratches the mother's breasts with his paws, the mother places an iron ringlet on his paw, etc.). But the animal predominates in him in all the stories and he finally goes into the forest.[108]

The Turkish tribes of Siberia usually consider bears as the cattle of Kairakan,[109] who sends them into the forests. Kairakan is the oldest of the bears "the big, great old-man bear" and the master of the forest. The master of the bears and the master of the forest are not distinguished.

The bond between the bear and the master of the Taiga (hills and forest) is especially prominent. Speaking to the bear they call it: "From the hill (*taiga*) my great uncle." When the bears kill the cattle and destroy the beehives the natives organize shamanistic practice. The shaman, coming to Kairakan, begs him to appease his "cattle," *i.e.*, the bears. The latter withdraws the bears and prevents them from destroying the cattle. The Yakut think that there is a bear shaman, who may be distinguished from his brethren by his intellect, invulnerability, spotted skin, a mane and a tail. On no occasion can he be killed.[110]

Bears with special marks, for instance, a tuft of white fur on the tail, on the back or on the shoulder, are particularly dangerous for the hunter. Altai and Shortsi tribes avoid killing such a bear and when one is unintentionally killed, they think that they have killed a cub of Erlik. The Altai hunter, when he has killed such a bear, sacrifices a horse or a cow to Erlik to compensate him for the loss, trying at the same time to select an animal of the same color as the slain bear.

---

[108] Without giving any reference, Potanin notes that the Tartar tales about heroes borne by a woman from a bear, contain the story that an unusual boy has either been deserted by his relatives or that he has voluntarily left. See Potanin, *North Asiatic Legends of the Son of Heaven*, p. 143.

[109] Radloff, W., *A Sketch of a Dictionary of Turkish Dialects*, vol. II, p. 369; Katanov, N., *The Alphabetic Directory of the Proper Names in vol. I of Radlov's Prototypes*, p. 9. (In Russian.) Verbitsky, W., *Dictionary, ibid.*, p. 117; Anukhin, A., Materials for the Study of Shamanism among the Altai Tribes; *Publications of the Museum of Anthropology and Ethnography*, vol. IV, part 2, 1924, p. 3.

[110] Kulikovsky, *ibid.*, p. 58.

The bear is associated in the mind of Turkish tribes with Erlik-Khan and Ulu-tojon. According to the information of H. Kosmin the shamans of the Siberian Turks often attach to Erlik-Khan the appearance of a bear.[111] Yadrinzev writes: "The Kumandji shaman relates about Erlik, representing him in a bear's form."[112] The Chern Tartars call Erlik-Khan "the bear's paw."[113] The Shortsi, Sagai, and Altai shamans usually represent the Erlik-Khan as clad in bearskin.

In the shaman's prayers[114] and cosmological myths,[115] Erlik is represented as the creator of the bears. Also he transforms a man into a bear.[116] According to the myths of these tribes, Erlik is considered to be the first man, exiled and transformed into a spirit of the underground world and in shaman's prayers is often called *ada,* father. The myths about the bear relate that the bear was once a man but, wishing to become Erlik, or for some other reason, was changed into a beast.

Also the guardians of the entrance of the *yurta* assume the form of the bear. They are the sons of Erlik or they are called his messengers.[117] Among the Teleut the master of the door is clothed in bearskin.[118] Minussinsk Turks think that the guardian of the doors is the bear and they always call him father. They sacrifice to him ants, blackberries, and the root of sarana (*lilium mortagon*).[119] The detached parts of its body are suspended by the entrance, usually some pieces of skin, claws or a paw.[120]

All these amulets are called *aba-tös,* the spirit of the bear. The owner of the *yurta* (among Kizil Tartars), when offering a sacrifice to this spirit, roars like a bear before the image and says: "Don't be angry, eat!"[121]

Among the Shortsi, a paw, a piece of skin, or a claw is suspended by the door, especially if there is a little child in the family. Yakut hang a bear paw with the claws on the child's cradle.[122] Among the Telengit on the Cholishman River the people keep a bear's paw in the *yurta* that the cattle may be abundant. The Shortsi suspend a bear's claw on the necks of calves and cows when they are suffering from the flux. The Altai trace round their head with a bear's claw as a remedy against headache. The Soyot do the same around a swelling on cattle.[123] So the separate parts of the bear are kept as a (magic-remedy) means for witchcraft.[124]

---

[111] Kozmin, N., *Siberian Memoirs,* 1918, vol. II, p. 101.

[112] Yadrinzev, *ibid.,* p. 111.

[113] Potanin, *Sketches, ibid.,* vol. IV, p. 129.

[114] Anukhin, *ibid.,* p. 86.

[115] Veselovsky, *ibid.,* p. 37.

[116] Katanov, *Prototypes, ibid.,* pp. 18 and 33; Potanin, *ibid.,* vol. IV, p. 167.

[117] Anukhin, *ibid.,* pp. 71, 86.

[118] Yefimova, A., Wedding of the Teleut, *Publications of the Ethnographical Section of Leningrad University,* 1926, p. 232. (In Russian.)

[119] Katanov, *Among Turkish Tribes,* p. 539; *Letters from Siberia,* p. 91; *Prototypes,* p. 576; Iakovlev, *Ethnographical Outline of the Valley of the Yenissei River,* Minussinsk, 1900, pp. 100, 102, 116, (In Russian.); Ostrovski, P., Ethnographical Notes on Turkish Tribes in the Region of Minussinsk, *Living Antiquity,* vol. III–IV, 1895, p. 110. (In Russian.)

[120] Collections of the Museum of Anthropology and Ethnography in Leningrad, nos. 267–76, 2390–98, 2164–2211, 2390–91. Instead of the bear's paw a wooden image of a paw sometimes is used. The latter is called also *aba-tös.*

[121] Klementz, Some Notes on Tyus, *Reports of the East Siberian Section, R. G. S.,* vol. XXIII, part 3–4, p. 27.

[122] Ionov, *ibid.,* pp. 340–341.

The bear's skin and head are of particular importance. We have already seen that after killing a bear the head, after the observation of certain rites, is suspended on a tree or buried. The head also safeguards the householder and property, and plays a special part when taking an oath.

For security of the house, the Yakut hang the bear's skull on a tree near it. The Chelei clan (Shortsi) fasten the bear's head on a pole among the beehives, turning its snout toward the hives, that the bees may steal the honey from the neighbor's beehives. For the same purpose, some use bear's claws, suspending them under the hives.

The man taking an oath among the Altai must sit upon a bear's skin and kiss the nostrils of its muzzle.[125] The Soyot, during an inquest, give the man examined a bear's muzzle to smell, or make him lick its head.[126] The oath among the Tartars of Yarynsk Volost (district) consisted of a man biting into the bear's head.[127] The Yakut also bite the bear's head when swearing,[128] or kiss the skull of the slain bear.[129] The pre-Christian oath of the Yakut was as follows: the man taking the oath sat astride the bear's skull before the fire and poured part of the oil into the fire, drank the remainder, and spoke the words of the oath.[130]

The bear is always present among the spirits. He is an assistant of the shaman[131] and his image is painted on the leather of the shaman's tambourine, on the lower part, under the line representing the underworld.

We have seen that the bear cult has been preserved among the Siberian Turks to a more or less pronounced degree, containing features differing from those of the cults of other Siberian tribes. This does not prove that it belongs to all Turkish tribes, for we have no convincing proof of its existence among non-Siberian Turks. The legends of the Osmanli[132] about the transformation of man into bear are too tenuous to be of any positive value in drawing valid conclusions.

Worship of domesticated animals, especially of the horse, must be the result of waves of immigrating Turko-Mongolian herders who introduced worship as well as domestication of these animals from the steppes of middle Asia into northeastern Siberia.

---

[123] Kohn, *ibid.*, p. 37.

[124] Karatanov and Popov, *ibid.*, p. 647 (the Kachin Tartars); Yadrinzev, *ibid.*, p. 110 (the Altai); Anukhin, *ibid.*, pp. 33, 45; Ionov, *ibid.*, p. 57 (the Yakut).

[125] Potanin, *ibid.*, vol. IV, p. 39.

[126] Kohn, *ibid.*, p. 37; Katanov, *Among the Turkish Tribes*, p. 521.

[127] Georgi, *ibid.*, vol. III, p. 23. "The Tartars of Yarinsky District in Katchinsky steppe living in the neighborhood of the Arinzi and descending with the latter from the same stem."

[128] Stchukin, *ibid.*, p. 19.

[129] Popov, *ibid.*, p. 9; Yastremsky, *ibid.*, p. 260.

[130] Pripuzov, *Materials, ibid.*, p. 50.

[131] Katanov, *Prototypes*, pp. 164, 168, 47; Katanov, *Traditions of Sayan Tribes*, p. 275; Yakovlev, *ibid.*, p. 100. The Soyot female shamans have an image called *hayarhan* representing the figure of a bear.

[132] Gordlevsky, S., Osman Beliefs about Animals, *Ethnographical Review*, vol. XXXIV-XXXV, 1910, no. 1, p. 179.

If the worship of the horse is met with in most areas populated by Turkish immigrants (Yakut, Altai, Uigur, Kirghiz, and of the Turkish tribes of Turkestan), and if this worship is common to all Turkish tribes, then the bear cult which has been preserved among Siberian Turks must be explained on the basis of other ethnic elements. These latter are of ancient date.

Thus, comparing these two cults, we see first that horse worship has spread over a larger area and is clearer and more deeply rooted, whereas the bear cult is blurred and indistinct and is older as far as the regions populated by Siberian Turks are concerned.

Horse worship shows a marked relationship to the worship of the higher celestial bodies,[133] whereas bear worship is related to underground spirits and those of the forests and mountains.

Thus we see that there are in these regions populated by Siberian Turks, densely forested areas, as the regions of the Karagas, Soyot-Todjin, Shortsi, Sagai, and Beltir who live on the tributary of the Abakan and of the Yenissei.

Among these tribes we find a very distinct cult and a less prominent horse worship. On the other hand, horse worship is very marked among the Altai tribes (Kumandı, Sholgan, Altai-Kiji, Teleŋet) and also among the cattle-breeding tribes of the Minussinsk steppes, and finally among the Yakut, who practise both cults to a marked degree. They have preserved in their new and strange environment pronounced forms of both types of animal worship.

We see that the worship of two dissimilar animals has developed similar forms and rites; although these two cults arose in different types of geographic environment (in the forests and in the steppes) and under different economic conditions (among hunters and herders) and possibly in different ethnic groups.

The Turkish hunting tribes try to secure the resurrection of wild animals, the cattle-breeding Turks of domestic animals. These aims are vividly expressed in the relations of the forest Turks with the bear and the plains Turks with the horse.

The bear and horse cult have evolved from the foundation of the economic importance of these animals; for example: The conception of Erlik and of his sons and delegates who appear as bears. Finally, there is the belief that bears are animals and that colts belong to Erlik. In other instances, they belong to the master of the *taiga* (dense forests). Analogous to this group of conceptions which express well-developed ideas of horse worship, we may quote the following stages of legendary development.

The Yakut represent one side and the Turkomen and Uigur the other side of the same concept. The Yakut believe "that the male and female horses have been our gods,"[134] and the Turks "that the horse has ruled the world."[135]

---

[133] Ionov, On the Problem of Studying the Pre-Christian Beliefs of the Yakut, *Publications of the Museum of Anthropology and Ethnography,* vol. V, 1918, part 1, p. 161. "To the spirits of the upper world are sacrificed horses," etc.; Verbitsky, *Sacrifice to Ulgen. The Altai Tribes,* p. 146; Katanov, *Prototypes,* vol. I, p. 98.

[134] Seroshevsky, *ibid.,* p. 262; Ionov, *Bibliography of the Religious Ideas of the Yakut,* pp. 355, 361.

[135] Samoilovitch, A. N., *Journey to Turkestan.* (A paper read during a session of Radloff's circle of the Museum of Anthropology and Ethnography.)

Calling horses celestial gods and giving them the attributes of gods, is found among the majority of Turkish tribes (particularly in prayers of the Uigur).[136] They are the gods of the higher regions; some are different spirits or delegates of gods. They descend to earth in the form of horses.[137] This is the source of the concept of the horse as the animal of the gods for horseback riding.[138] Most of these tribes quite naturally associate horses with celestial and higher spirits and especially so the horses which are of the following colors, gray, white, piebald and brown.[139]

The bear is associated with the vicious and baser gods of the underworld, namely Erlik. Finally, we must suppose that the bear cult, more ancient in this region, was fused with the Erlik cult when the Turko-Mongolian horse cult was joined with their celestial cult and worship of celestial spirits common to these tribes. It is interesting to note that horse worship has penetrated widely into all the concepts and practices of the Siberian Turks. We even see that finally Erlik and the master of the *taiga* (forest and mountain) ride on horseback, horses are dedicated to them, although these are horses of the dark type.[140] Among all the Turkish tribes, the ceremony of horse dedication to various gods is well developed, under the names ɪyɪk, ɪzɪk, ɪdɪk, ɪtɪk.[141]

In comparing the attitude towards the different parts of both animals, we notice that the relation of the Turkish tribes to the bear's head and to the horse's head is analogous. Thus among the Yakut[142] we find an oath on the horse's head. They bow to the horse's head during a wedding.[143] The horse's head, in particular that of a favorite horse, is hung on a tree.[144]

---

[136] Seroshevsky, *loc. cit.*, p. 640; Anukhin, *Material on Altai Shamanism*, p. 94 et seq.; Malov, S. E., Remnants of Shamanism among the Uigur, *Living Antiquity*, p. 68.

[137] Chudyakov, N., Verchoganskiy sbornik, *Memoirs of East Siberian Section, R. G. S.*, vol. I, series III, 1896, pp. 121, 122; Shtchukin, The Yakut, *Journal of Home Department*, Part VII, 1854, p. 17; Seroshevsky, *ibid.*, p. 262; Yastremsky, S., Remnants of Ancient Beliefs of the Yakut, *Reports of the East Siberian Section, R. G. S.*, vol. XXVIII, 1897, p. 14; Jochelson, *Kumiss Festivals*, p. 262; Katanov, *Prototypes*, vol. IX, p. 573.

[138] Ulgen himself rides on horseback. Inventory of the Museum of Anthropology and Ethnography, no. 2014/1, edited by A. B. Anukhin; Shvetsova, The Altai-Kalmyk, *Memoirs of the West Siberian Section, R. G. C.*, no. 3, Omsk, 1897, p. 8. The master of the mountain and other spirits ride on horseback. Katanov, *Prototypes*, p. 168. Malov, S., Shamanism among the Sarts of Turkestan, *Publications of the Museum of Anthropology and Ethnography*, vol. V, part 1, p. 2. When the shaman has a vision, the spirits appear to him as herds of horses. The white horse serves as the reincarnation of the shaman's soul (Shortsi), and the shaman's stallion is connected with the life of the shaman (the Teleut). The horse's death causes the shaman's death. Anukhin, *loc. cit.* The foal and the bear may also serve as reincarnation of the shaman (the Yakut).

[139] Jochelson, *Kumiss Festivals*, p. 269; Troshtchansky, *ibid.*, pp. 20, 21, 32, 33, 37; Seroshevsky, pp. 655–658. According to the legends of the Ordos tribes, the white horse has descended from heaven. Potanin, The Tangut-Tibet Region of China, St. Petersburg, 1884, vol. I, p. 123. (In Russian.); Anukhin, *Materials on Altai Shamanism*, p. 36: among the Altai the horse is connected with the legend of Ulgen. Verbitsky, *The Altai Tribes*, p. 146; also Some Notes about the Nomadic Altai, *Reports of the R. G. S.*, 1858, part II, pp. 95, 96. (In Russian.) Potanin, The Tribes of the Altai, *Picturesque Russia*, vol. XI, p. 14. (In Russian.) The quotation refers to Beltir, Kachin, Sagai, etc.; Katanov, *Prototypes*, vol. IX, pp. 548, 573, 578.

[140] Katanov, *Prototypes*, vol. IX, p. 216.

[141] Such a horse, being in possession of supernatural power, will protect the people as well as the cattle, from evil spirits, and is a mediator between men and gods. Consequently, the horse has a significance similar to that of the bear kept in their house by the Saghalin Gilyak. This custom was interpreted by Prof. L. J. Sternberg, *Ethnographical Review*, 1904, vol. 60–63, p. 64.

In Turkestan[145] and among the Crimean Tartars[146] this practice is used for obtaining success, for a good harvest, and as a protection against evil spirits. The Bashkir hang a horse's head near their bee hives in order to circumvent any sorcery.[147] The skins of the horse are also hung up as offerings. However, while the bear's head is hung on a mountain ash, a bowl berry, or a fir tree, the horse's head, skin (and the horse itself) are tied to a birch during the sacrifice. The birch is considered a sacred tree which grows in the heavens and joins heaven and earth with its roots and its top by touching the dwelling of Ulgen. At the foot of the tree the spirits rest.[148]

The bear and horse skin have the same significance. The horse skin is spread for the Kam ceremony[149] and also when the wind is exhorted.[150] The Turkish tribes, while taking the oath, exhort their sacred animal which continues to live in its skin. This is done in order that they should not be punished in case of a lie. In horse worship, the spirit in the form of a horse is called. Productivity is requested and the horse skin as well as its hair thrown into the fire as an offering.

In the bear cult among the Siberian Turks may be discovered the fundamental sources of totemism:—

1. The motive of the woman living with the bear in concubinage.
2. There exist stories about the metamorphosis of man into a bear.
3. The bear is considered man's ancestor or has much in common with man's ancestors.
4. In addition to terms of a descriptive character the bear is called by names expressing direct relationship.[151]

---

[142] Yastremsky, *The Remnants of Beliefs*, p. 260. The Yakut bow to a horse's head and kiss the head bones of a slain bear. G. P. Popov, The Yakut of the Eighteenth Century, *Studies and Investigations, Sakha Kheskele Society*, Yakutsk, 1925, p. 9. (In Russian.)

[143] Seroshevsky, *The Yakut*, p. 543.

[144] Told by A. Popov; Jochelson, *loc. cit.*, p. 263; see also the Inventory of the Museum of Anthropology and Ethnography, no. 2666–423, 2666–429. "Seven horse skulls representing the requisites of horse worship." The Yakut will not permit horse skulls to lie on the ground; they hang them on poles or on branches of trees called *aranast*. Seroshevsky, *The Yakut*, p. 262. This is also customary among the *Kirghiz*, cf. p. 16).

[145] Potanin, A., *Descriptions*, etc., vol. II, p. 94.

[146] Told by the University student, Bari Abbasov (1927), Umar Alieu Kapachai, Rostow, 1927, p. 1123.

[147] Georgi, Part II, p. 107.

[148] The celestial horse grazes on Syubyur Mountain and he quenches his thirst in the milk lake in the shadow of a thick birch. Katanov, *Descriptions*, etc., vol. XI, p. 572. According to the beliefs of the Yakut, the celestial spirits, when descending, tie their aerial horses to poles erected for the spring sacrifice and decorated with young birches. Maak, R., *The District of Vilui of the Yakut Region*, part III.

[149] Seroshevsky, p. 639; Yastremsky, *Remnants of Beliefs*, etc., pp. 235, 286.

[150] Georgi, *The Yakut*, part III, p. 115.

[151] The Shortsi say: To dream of the death of a relative indicates that the dreamer will kill a bear during the same winter.

5. Finally, there are rituals performed after killing the bear, such as weeping for the dead, wakes which are conducted in the same manner as for a deceased relative, imitation of the growling of the bear.

The most important characteristic of totemism,[152] however, is absent in the bear cult of the Turkish tribes: We fail to find in Siberia the usual concept of the bear as a totem, expressing a relation of the species to sib units. The whole tribe has a special relationship towards all bears, and primarily towards all animals.[153]

In contradistinction to the prohibition against killing the totem, the bear is hunted all the time,[154] but after the hunters have killed the animal and eaten its flesh, they make every effort to preserve the skin, bones and head, in order to make possible its resurrection. Thus we see that the Siberian Turks do not break the bones of the bear; they place them on the bench and leave the head of the bear on a tree. This is a remnant of the custom of suspending the whole bearskin[155] which exists among other Siberian tribes. This has been observed among the Samoyed in 1810.

> ''They worship the animal skins, especially that of the bear. They hang them on trees and bow before them.''[156]

Concerning the Ostyak:—[157]

> ''Wild animals are also objects of worship, but especially the bear. Before the ceremony, the skin is spread out and made to look like a living bear. They gather about and dance around it. Afterwards the owner takes the skin and uses it without any scruples.''

Hanging the skins and saving the bones during the offering, to make possible the resurrection of the animal, is widely spread. We find a very interesting explanation of this ritual by Georgi (referring to the Lapp):—

> ''They believe that the gods will cover the bones with meat (which they have eaten). If a dog should eat a bone of the sacrificial animal, it is killed and the corresponding bone which the dog has gnawed is taken out of it, and is laid upon the place of sacrifice.''

(Evidently in order to make the skeleton of the dead animal complete.)[158]

Analogous to the custom of hanging up the bearskin is a similar one applied to domesticated animals: After the sacrifice the skin with the head and hoof of the horse are hung from a pole.

Among the Altai Turks the suspended horseskin is made to look like the animal itself. The stick over which the skin is laid forms the backbone; or the horse bones are mixed together, packed in a bundle of branches, and they are laid upon a storage platform.[159] This is observed among the Teleut;[160] according to a drawing by Radloff the skin is often fastened in sitting posture.[161]

---

[152] Frazer, J., *Totemism and Exogamy*, London, 1910, vol. IV, pp. 3–4.

[153] Bogoras, W., *The Myth of the Death and Resurrection of the Animal God*, p. 69.

[154] Frazer, *ibid.*, pp. 6–7.

[155] The same refers to the horse's head during the shamanistic performance connected with the goddess, Aycɪt; the head is kept whole, the bones wrapped in birchbark and placed on a tree. This is a substitute for the hanging of the horse skin, a custom dependent on the conception of the same goddess in the shape of a horse. Yastremsky, *Remnants of Beliefs*, etc., p. 234.

[156] *Statistical Review of Siberia*, St. Petersburg, 1810, p. 173.

[157] P. 53. A brief description of the Ostyak tribes composed by Gregory Novitzky, *Monuments of Ancient Literature.* St. Petersburg, 1884. A chapter on idolatry, p. 13.

[158] Georgi, *ibid.*, Part I, pp. 13, 63, 75, 31. The same in Shashkov, *ibid.*, p. 87.

Among the Yakut the flesh of the sacrificed horse or horned animal is eaten by those assembled. The skin and the hoofs are hung in dense woods.[162] In ancient times the bones of horses were placed on the bench.[163] The practice of hanging out horseskins was the custom which later disappeared among the Kuznets Tartar. We find the following in the manuscript by Tatishtchev:—[164]

> "If the following question is put to a Yasach Tartar in the region of Kuznetsk: 'In what God do they believe? What are his characteristics? Do they believe in his omnipresence?' then this answer is given: 'They believe. They kill horses, they skin them and fill them with grass and put them on the storage platform. . . . They bow to the east while looking at the heavens and then they eat the meat . . . , but they place the bones within the skin on the storage platform. But nowhere do they believe in Him (God) while the former is the belief of their fathers and grandfathers; but the belief in God, they did not know.' "

There is evidence that the Crimean Tartars also suspended the skin of sacrificial animals (horses) on poles and worshipped them.[165]

In reference to the sacrifice of horses the following interesting features must be noted. These sacrifices have a generic character. During the sacrifice the women are not present. A woman shaman does not perform this sacrifice.

The meat is eaten by everybody during the feast associated with the sacrifice. The animals are either choked or killed in a ritual manner; the bones are not severed but preserved; the skin, the head and the hoofs are suspended. Some elements of the horse cult lead us to believe that the horse may have been a totem animal among the Turkish tribes although in this as in the bear cult no features of totemism are fully expressed. Among the Turks of Siberia are stories of the origin of man from the horse.[166] In contrast to the rôle played by the bear, the horse is viewed as the guardian spirit of and the mediator of the clan. We know of the rôle played by the white-lipped foals which were preserved and not killed.[167] Finally, the significance of the horse as a guardian, protector, and arbitrator for the individual is noted clearly in all motives of the Turkish tales.[168]

---

[159] Gluchov, N., Taielga, *Ethnographic Materials*, vol. III, Series I, St. Petersburg, 1926, p. 95. (In Russian.) Verbitsky, *Some Notes on the Nomadic Altai*, p. 97; Potanin, *The Tribes of the Altai*, p. 78.

[160] Georgi, *ibid.*, Part III, p. 109; Shvetzov, *The Teleut and the White Kalmyk*, 1821, p. 14.

[161] Radloff, *Aus Sibirien*, Leipzig, 1884, vol. I, p. 332.

[162] Popov, P., *The Yakut*, p. 10; Gmelin, *Reise*, vol. II, pp. 508, 209; Seroshevsky, *The Yakut*, p. 647.

[163] Jochelson, *Kumiss Festivals*, p. 262; *cf.* the hanging of the sacrificed foal's skin on the tree among the Cheremiss; Georgi, *ibid.*, vol. I, p. 31; the burying of the horse's bones and also of those of the bear on the arañas, or on a tree, is a repetition of the ancient form of burying of most of the Siberian tribes.

[164] A work on the geography of certain northern cities, rivers, lakes, mountains, and peoples; also on idolators known by the Kuznetsk administration as the Yasach Tartars, namely Ivashka Davitkin and his fellows. Manuscript in the Library of the Academy of Sciences, Leningrad, no. 12, 2, 107, p. 146. (In Russian.)

[165] Thomas, Animals, *Encyclopaedia of Religion and Ethics*, New York, 1920, vol. I, reference to Strauss, *Reise durch Italien*, Gotha, 1832.

[166] There is a mutual relationship between the whole tribe and all horses. "In the beginning there was a horse. Her offspring was an animal who was half horse-like and half human. This animal gave birth to man." (Troshtchansky, *The Evolution of Black Magic among the Yakut*, p. 32). See also Kharusin, *The Oath on the Bear*, p. 17. (Reference to Seroshevsky, p. 263). In tales we have the motive of the transformation of a man into horse (Karagas). Katanov, *Prototypes*, p. 631.

Attention has already been called to the fact that after the bear has been killed his growling is imitated by the hunters as a part of the ritual. We find the same custom during the sacrifice to Ulgen, for the animal is imitated by both the Shortsi and the Teleut; shamans imitate horses, they whinny, stamp, and snort.[169]

In both cults we may note the presence of sexual elements. During the Kam ceremonies Ulgen and Kočuganxan are worshipped among the Altai Turks, the shaman or one of those present makes certain movements while carrying a wooden stick representing the penis and called penis (*kočugan kan*).[170]

In the killing of the bear we find additional analogues, for the young hunters are induced to make movements similar to those in sexual intercourse, over the body of the bear,[171] and on nearing the bear's den one of the old hunters stands behind the beginners and holds a twig opposite his penis as he pushes the young hunter.[172]

---

[167] Pripuzov, N., Some Notes on the Yakut, *Memoirs of the East Siberian Section R. G. S.*, vol. II, part 2, p. 50. Shashkov, *Shamanism*, pp. 43, 75. Shtchukin, The Yakut, *Journal of the Home Department*, 1854, Book VIII, p. 17.

Strahlenberg, *Der Nord und Ostliche Theil von Europa und Asien*, Stockholm, 1730, p. 379; the same author in the Reports of Various Foreign Authors about the Peoples of the State of Russia, *Records of the Ethnographical Society of Kazan University*, vol. XI, Series 3, p. 244.

Seroshevsky, *ibid.*, p. 270.

[168] The horse tied with a lariat on the white mountain summit, is let down by the deity from heaven to earth for the hero's assistance; or the hero is informed where to find this horse and he makes a search for it. Troshtchansky, *ibid.*, pp. 20, 21. Jochelson mentions the rôle of the horse as a protector and counselor among the Kirghiz. (The motive of the magic flight as an episode in mythological tales. Special volume in honor of the Seventieth Anniversary of D. N. Anutchin, Moscow, 1913, p. 164.) For the Minussinsk tribes, see Katanov, *Prototypes*, p. 212, vol. IX; also, Katanov, Stories and Legends of the Minussinsk Tartars. Siberian Materials appended to the *Eastern Review*, Irkutsk, 1587, pp. 225, 230. (In Russian.) The horse which appears during the hero's birth, is well taken care of. It is forbidden to beat, to whip, or to tie this horse, etc.

[169] Verbitsky, *The Altai*, pp. 62, 87. Also, *Some Notes on the Nomadic Altai*, p. 97; Potanin, The Tribes of the Altai, *Picturesque Russia*, vol. XI, p. 77. A similar custom is found among the Buryat in shamanistic ceremonial of the mimetic character called the Play of Ongon. See Khangalov and Klementz, Communal Hunting among the Northern Buryat, *Materials on Russian Ethnography*, vol. I, St. Petersburg, p. 43. (In Russian.) In other instances, when the spirit of the bear enters the shaman, he puts on the skin of an animal with the inner side out and imitates that animal by gestures and voice. See Potanin, A. V., Travels through the Uriankhai Country, p. 31, Moscow, 1897. (In Russian.)

[170] Anukhin, Inventory of the Museum of Anthropology and Ethnography, no. 2014–8; Zelenin, D. K., Elements of the Phallus Cult in the Altai, a report to a meeting of Radloff's circle at the Museum of Anthropology and Ethnography. Compare also Divaev, M., Invocation of the Wind, *Ethnographical Review*, part 1–2, 1910, pp. 131–133.

[171] Kulakovsky, *ibid.*, p. 96.

[172] Told by A. Popov.

The Yakut explain this custom as an encouragement to the young men. They must not be timid, their legs should not tremble, and they should not become startled in the next hunt. We must assume that the sexual elements in horse and in bear worship signify productivity, namely, an increase in cattle and game during the hunt.

Bear and horse cult have in common the killing of the worshipped animal, whose rôle is that of a mediator; the sacrificial feast; and the saving of the bones and skin as an expression of the wish for the resurrection of the animal. The killing of the bear during the hunt has the character of a sacrifice;[173] and when the horse is sacrificed a feast is held.

The myth plays the leading rôle in the bear cult, while in the horse cult the ceremonial part overshadows the myth.

Bear worship is practised chiefly by forest hunters and mainly in northern Siberia; horse worship is practised chiefly by Turkish-Mongolian cattle breeding tribes. Both cults embrace characteristics of tribes of Turkish and Mongolian extraction, and are widely distributed and of ancient origin. The bear is connected with the forest regions of Siberia, especially in the northern part. Its ceremonial killing is observed from North America to the northern part of Eurasia.[174] These myths and rituals date back to an ancient Eurasian cult.[175]

The horse cult is of economic origin and originated in the Steppes. The home of the horse is in the central Asiatic steppes.[176] From there it spread southward and towards the northeast into Siberia.[177] It also penetrated the dense forests, to the northeast of Yakutiya[178] where we have found very pronounced remnants of this cult of the nomadic cattle-breeders.

---

[173] Georgi, *ibid.*, part III, p. 19.

The Karagas: ''Everyone prays individually to the sun and to the celestial vault, sacrificing the head and heart of the bear or other game. They place the offering on a piece of bark and raise it toward the sun. They ask for the fulfilment of all their needs. Then the offering is eaten by the participant.'' Pallas, *Travels*, part III, first half, p. 224.

[174] Hallowell, *ibid.*

[175] Its ancient provenience has been noted by Bogoras. See The Myth of the Death and Resurrection of the Animal-God, p. 69; Bachofen, *Der Bär in den Religionen des Altertums*, p. 14. Other authors have also discussed the antiquity of bear worship. Thus, Yadrinzev, *loc. cit.*, p. III, speaks about the antiquity of the amulets associated with the bear.

[176] Hehn, Victor, *Kulturpflanzen und Haustiere*, Berlin, 1883, pp. 19, 20, 50.

[177] Teploukhov mentions the remnants of horse bones found by himself in the burials of the so-called Afanasyer culture in the Minussinsk region. (Ancient Burials in the Minussinsk Region, *Ethnographical Materials*, S. P. B., vol. III, Issue II, 1927, pp. 66, 67, 75.) He places the rise of the nomadic people who used horses in the Minussinsk region in the first years of our era (p. 57). Radloff, Native Tribes of Siberia, *Picturesque Russia*, vol. XI, pp. 14, 15, 16–19, 23, 24, notes the multiplicity of objects forming the horse's harness found in the excavations of Bronze Age sites, and considers the people of that epoch to have been pedestrians rather than horsemen, though they knew the horse. On the other hand, he notes that the Iron Age burial places containing remnants of Turkish tribes, as on the South Altai and in Abakan, contain a great number of horse skeletons. According to him, this fact and also the images of horsemen on the petroglyphs and the information obtained from the Chinese, suggest that the Turks were horsemen in ancient times and that their main occupation was to breed animals. Gluchov and Rudjenko, Burial Grounds of Kubyrge on the Altai, *Ethnographic Materials*, vol. III, Edition II, 1927, pp. 39, 46, 49, 50, state that the burial grounds of South Altai at the Chulymmane River contain horse skeletons dating back to the seventh century A. D. These skeletons are buried like the human ones, with all their trappings. The buried horses were fully harnessed. This suggests, according to the authors, that the Kubyrgintsi were horsemen, that

Separate elements are combined with the horse cult; the rôle played by the white foals among the Tungus is considered by them a non-Tungus element, more like an acquisition from their Yakut-Buryat neighbors.[179] In consequence, the Yakut give us the border line of the spreading of the horse cult towards northeastern Asia. While the elements of the horse cult as traced through the regions of southern and western Asia,[180] associated with the waves of nomadic cattle breeders give us the southern border line of the distribution of this cult in Asia; the separate elements of horse worship and bear worship as well, appear to be fused together in Europe.[181]

Asiatic ancient and contemporary European folklore are replete with myths about the bear. The motive of the metamorphosis of man into bear is spread from Kamchatka[182] to the Baltic[183] and was found in ancient heathen Russia.[184] Still more prominent is the motive of the rape of women by the bear and the birth of a bear son. This myth embraces entire Eurasia and a narrow strip of northwestern America.[185] It finds its counterpart among the Yakut[186]

---

the horse played an important rôle in their life and accompanied them into the future existence. During this period a ritual burial of the horse together with the deceased already existed, this being a characteristic feature of the majority of Turkish-Mongolian peoples, from ancient times to our days. Castrén, M. A., *Auf Zeichnungen über die Altertümer in Kreise Minussinsk.* Helsingfors, 1901, p. 34.

[178] Middendorf, A., *Nord und Ost Sibirien,* St. Petersburg, 1875, vol. II, p. 1762. The Yakut led the horse and cattle further to the north than any other people.

[179] Shirokogorov, S., Shamanism among the Gold, p. 61, *Scientific Memoirs of the Faculty of History and Philology, Vladivostok,* 1919, vol. I. (In Russian.)

[180] Hehn, *ibid.,* p. 50. Vivid traces of the horse cult in India were noted by L. Sternberg in the article The Ancient Cult of Twins in the Light of Ethnography, *Publications of the Museum of Anthropology and Ethnography,* vol. III, 1916, p. 183, reference to Hillebrandt, *Ritual literatur Vedische Opfer und Zauber,* Asvamedha, 1880, pp. 149–153.

[181] Thomas, Animals, *Encyclopaedia of Religion and Ethics,* vol. 1, pp. 463, 486, 591.

[182] Tyushov, V. N., On the West Shore of Kamchatka, *Memoirs of the R. G. S.,* vol. XXXVII, no. 2, 1906, p. 241.

[183] Pogodin, A., Cosmic Legends of Baltic Peoples, *Living Antiquity,* 1895, vol. 10, pp. 431, 432.

[184] Anitchkov, E., *Paganism in Ancient Russia,* 1914, p. 271; Veselovsky, *Complete Works,* part 1, p. 358; Klinger, *ibid.,* p. 273.

[185] Bogoras, *The Folklore of Northeastern Asia, ibid.* (Parallelisms: American, Tungus, Lamut); Jochelson, W., American and Asiatic Parallels in the Myths of the Koryak, *Geography,* vol. III, Moscow, 1904 (in Russian); Sternberg, L. J., The Gilyak, *Ethnographical Review,* 1905, Parts 60–63, p. 68, also Materials for the Study of the Gilyak Language and Folklore, St. Petersburg, 1908, p. 96 (the quotation refers to the Gilyak and Oroch); Arsenyev, Shamanism among the Siberian Tribes and their Animistic Conceptions, *Asiatic Reporter,* 1916, vol. II–III, p. 336 (referring to the tribe Udekhe); the same, on the Kolyma. See Popov, Eug., Data on the Study of Russian Life on the Kolyma, *Ethnographical Review,* 1907, Parts XXII–XXIII, nos. 1–2, p. 174. The same among the Russians in the southwestern part of the Tomsk Government, in Potanin, southwestern part of the Tomsk Government, *Ethnographical Journal,* published by the Russian Geographical Society, St. Petersburg, series VI, p. 143 (in Russian).

[186] Troshtchansky, The Evolution of Black Magic among the Yakut, p. 32. A distant analogy can be seen in the ancient myth of Poseidon's marriage with Demeter in the shape of a mare; the offspring being a horse. See Kagarov, E., *ibid.,* p. 239. According to Pavsany,

who tell of the birth of an animal half horse and half man and man is his offspring. The Sagai women even at the present time fear to enter the woods, dreading to be carried away by bears. The same fact is also noticed among the Russian peasants. L. J. Sternberg[187] quotes in his work, *Divine Election in Religion,* an interesting incident about a bear wedding in 1925.

The last remnants of this found their reflection in the artistic creation of Lunacharsky, *Shemet or the Bear Wedding,* which is based on the Litov legend about Lokis.[188]

Museum of Anthropology and Ethnography,
Academy of Sciences,
Leningrad

Demeter having temporarily assumed the shape of a mare, gave birth to the horse Arion. She was worshipped as "Black Demeter," and represented as half woman, half horse. Klinger, *ibid.,* p. 108.

[187] In the periodical *Ethnography,* vol. I, Book III, Moscow, 1927, p. 39. The author refers to the article by N. Brykin, Bear Wedding, in the Leningrad *Truth,* 1925, no. 190.

[188] Mérimée, Prosper, *Complete Works;* Lokis, issued by the publishing house Academia, Leningrad, 1927. Translation by M. Kuzmin.

THE SHAMANISTIC CALL AND THE PERIOD OF INITIATION IN NORTHERN ASIA AND NORTHERN AMERICA

WALDEMAR G. BOGORAS

AMONG the papers presented to the XXI International Congress of Americanists, section II, held at Göteborg, were two by Doctor Franz Boas and Doctor Robert H. Lowie, presenting the points of difference and resemblance between the primitive cultures of the Old and the New World. Both scientists brought into the discussion the methods of magical cure and the relations of man and spirit on the two continents. Doctor Lowie indicated that the intrusion theory is prevalent in most parts of America, embodying the conception that physical ailments are caused by a tangible pathogenic agent, say a pebble or a worm. The cure consists in extracting the intruder which is then exhibited to the patient and his kin. At the same time the soul-loss idea was cited as typical for northern Asia, the Chukchee furnishing the stock example. I will not contest this assertion, the more so, as the Chukchee example is probably, or at least in part, taken from the material collected by myself.

On the other hand, several examples of soul-loss theory, as present in America and of the intrusion theory, as found in Asia, were brought forward. Still these facts only place further restrictions on the idea of Doctor Lowie, but cannot deny it altogether.

Doctor Boas, when speaking of the religious beliefs of the tribes of the Old World and the New World, also indicated certain fundamental differences. He states:—

> ''The belief in obsession is the most characteristic form of belief in the Old World. . . . On the other hand it seems quite foreign to the belief of the American tribes. . . . Ideas of personal contact between men and supernatural beings are quite frequent, but obsession and with it the various forms of exorcism do not seem to occur. The spirit may attack man, but he does not enter his body.''[1]

The difference in question is the more peculiar since the intrusion theory and the obsession theory might have been considered as stages of evolution of the same idea of some extraneous agent entering the human body. In the first case, it is the material agent, causing physical ailment; in the second case, it is a spirit, causing some violent fit of demoniacal frenzy. But the first gradually should have evolved into the second, as most probably was the case with the Asiatic people.

Still I have no wish to insist on that which should have been, since it does not exist actually. On the contrary, I shall myself take up the same line of comparison between the Old World and the New World in the matter of religious beliefs and ideas, in order to contribute a supplementary argument to the theories of Doctor Lowie and Doctor Boas. The particular branch of my study refers to the shamanistic call, shamanistic initiation, *i.e.,* to the psychological process by means of which a man may come to be a servant of spirits, or a master of the same, or both together. This time, though my interest lies mostly in Asia, I will begin with America.

---

[1] Boas, Franz, America and the Old World, *Compte-Rendu de la XXIe Session, Congrès International des Américanistes,* deuxième partie, Göteborg, 1925, p. 27.

When an Indian of some North American tribe wants to come into contact with spirits, or, more particularly, wants to acquire a guardian spirit, he must go to some lonely part of the wood or of the prairie, in search for such protecting and assisting spirits. Mrs. Ruth Fulton Benedict in her article on the *Vision in the Plains Culture* indicates as an element essential for such a quest, the infliction of self-torture in order to attract and to mollify the spirits. When the spirits in question represent some animal form, the aspirant must offer them even some of his own flesh.

About the Assiniboin, Doctor Lowie relates that one time a man, looking for the protection of snake-spirits, came to the hiding place of snakes and was attacked by them. Then, in his frenzy, he began to cut off strips of his flesh and to feed the snakes with it. The snakes told him, "None of the other men has done this before. Come with us, grandchild. We pity you." And thus he was successful.

A similar method of a quest refers also to other forms of spirits, anthropomorphic and yet terrible, difficult to deal with. The man before the spirits is always in the same position. He is a supplicant, ready to propitiate them. For this he cuts his flesh, his ears, his little finger.[2] In other cases such self-mutilation is insufficient. The supplicant applies intense self-torture, as mentioned above. The Cheyenne supplicant goes to a wild place, accompanied by an assisting person, who carries thongs, wooden pins, and a knife. The pins are driven through the flesh of the supplicant into special apertures cut with the knife. Then he is tied to a pole with thongs fastened to the pins. After that he is left alone, and he must walk back and forth on the sunward side of the pole, praying constantly, and fixing his eyes on the sun.[3]

Among the Dakota supplicants hang suspended on such thongs or cords, without food and drink, for two, three, or four days, gazing into vacancy, their minds fixed intently upon the object of their quest, and waiting for a vision.

Among the Lenapé the same method of initiation was applied to boys no older than twelve years. The parents would drive such a boy out into the forest to shift there as best he might, in order to induce some manito to take pity on the suffering child and grant him some power or blessing. A boy would be left in the forest for several days without any food at all. Moreover, every morning just before sunrise he would be given a medicine to make him vomit and only after that would he be given a tiny piece of meat about the size of a man's little finger. Some boys were able to fast in this way for twelve days; after that they received great power, the magic aid of their supernatural assistant and even a gift of prophecy for a year or two ahead.[4]

---

[2] Kroeber, A. L., Gros Ventre Myths and Tales, *Anthropological Papers, American Museum of Natural History,* vol. 1, part 3, New York, 1907, p. 122.

[3] Grinnell, George Bird, *When Buffalo Ran.* New Haven, 1920, p. 79.

In summing up the facts we find that, in America, a shamanistic initiation is produced by the aspirant by his own free will. It is the result of a quest; it is effected by means of self-torture, of offering to the spirits the flesh of one's body, by cutting off one's finger in sacrifice.

Now, in Asia, the process of getting shamanistic power is essentially different. Free-willed self-torture nowhere and never occurs. The aspirants indeed undergo many varied tortures, but all of them are inflicted by spirits and they are always compulsory. Moreover, they are undergone not, in reality, but in a dream or in vision. In most cases, they simply form a part of the shamanistic folklore. It is the Asiatic variation of the same idea of getting shamanistic power through torment and suffering.

Among the Yakut, the Buriat, and various branches of Siberian Turki, we find a uniform description as to how the spirits attack a young man, cut his whole body in pieces, stripping the flesh from the bones and how they inspect the members of his body, one by one, looking for a special sign, or even for a special shamanistic bone, which does not occur with ordinary people, and without which it is impossible to acquire shamanistic power.

With the Buriat, the description of this peculiar surgical operation is monstrous in its tiresome and numerous details, which evidently belong to a state of ideas, much more ancient than modern Buriat animism. Among the Tungus the supernatural surgery is less developed. Among the Chukchee and the Koryak it is altogether lacking. So the tribes of extreme northeast Asia form a kind of transition from the supernatural surgery of Central Siberia to the self-torturing of America in eliminating the one and the other.

It is understood that no such surgical operations actually occur. Still the Asiatic method of shamanistic initiation is also full of very real torture, but this, in contrast to American torture, is not of a physical but a moral character. There is no voluntary quest of spirits in the shamanism of Siberia. The spirits themselves elect a man and compel him to become a shaman mostly against his own will. Chukchee shamanism, which was mentioned by Doctor Lowie, includes this compulsory call, the order to become a shaman, which is directed not from a man to the spirits, but from the spirits to a man. The man, called by the spirits, does not want to obey. He tries to escape their ominous gift, he wrestles with the spirits even down to the bloody sweat, but must obey the spirits on the danger of his life. Young boys of Asiatic tribes are not induced by their parents to fast for several days and then to vomit at sunrise to purify their stomachs and their souls for free intercourse with the spirits. Against their own will and, to the sorrow of their parents, Asiatic boys are led on by the spirits under peril of imminent death, if only they show themselves averse to the call of shamanism.

In the *Proceedings* of the Americanist Congress previously cited is included an extensive paper by the late Doctor Sternberg who tries to analyze and to explain the sexual part of the divine election in primitive religion and particularly in shamanism. He gives many details about the compulsory character of that election.

---

[4] Harrington, M. R., Religion and Ceremonies of the Lenape, *Indian Notes and Monographs, Museum of the American Indian, Heye Foundation.* New York, 1921, p. 63.

On the other hand, when the aspirant in Asia at last gives way to the call of the spirits, he is inspired with their power, he is full of it just as a vessel is filled with some higher substance, possessed by the spirits. He is, indeed, obsessed by those spirits, but they do him no harm, they bring him supernatural force and ability. From this time on, the shaman operates, he sings and dances, makes wonderful cures and miraculous tricks, and all this, not by his own force, but by the force of the spirits.

A decrepit old man of eighty and more will exert himself for two long hours in violent thumping of the drum, clamoring and springing, and after that he will feel himself far from being tired, but rather relieved, because the whole of these exercises were produced not through his own feeble agency, but through the strength of the spirits.

So the shamanistic aspirant, the young newly inspired shaman, as well as the fully developed shaman, hardly needs physical preparation for shamanistic action. As a general rule, there is no preliminary fasting, no hunger and thirst for several days, no sleepless nights, etc. A Siberian shaman begins with a hasty smoke of strong, unmixed tobacco, but this stimulant came to Siberia no earlier than the last two centuries. During the seance the shaman drinks a quantity of beer and brandy. But these stimulants are not for his own delectation. With these he treats the spirits who enter his body in the process of the shamanistic performance.

''Have you ever seen a shaman at some solemn ceremonial?'' asked a shaman of Gold provenience, addressing Dr. Sternberg. ''How can a man drink so much vodka? But it is not the shaman, it is the ayami (a female assisting spirit) who drinks it all.''

I must mention that the vodka, brandy, either of Russian or of Chinese distillation, is also a stimulant new in the culture of Siberia and so it represents for the shaman and his spirits only a treat of new and foreign production.

MUSEUM OF ANTHROPOLOGY AND ETHNOGRAPHY,
ACADEMY OF SCIENCES, LENINGRAD.

CULTURAL WORK AMONG THE LESSER NATIONALITIES OF THE NORTH OF U. S. S. R.

By Waldemar G. Bogoras and N. J. Leonov

I

THE lesser nationalities of the north inhabit an immense area of tundra and forest, and are thinly scattered over more than ten thousand kilometers in small groups, mostly a couple of thousand or so and in some cases only a few hundred. The total population of these twenty-odd tribes is 150,000 to 200,000. Still, this scant and varied sector of humanity represents a very important item in the economic and social structure of U. S. S. R. Without the northern people, the rich resources of the north could not be exploited; without the natives, the entire northern Arctic and sub-Arctic zone would remain barren and desolate.

Before the advent of the Russians, the natives lived their own life, adapted, in the course of centuries, to the severe climatic and natural conditions.

First of all the conquerors demanded tribute in costly furs, which until that time were of little use and value to the inhabitants. The forests teemed with sable, which were so abundant that the unit of calculation was the so-called *sorok*, or forty sables tied in a bundle. Even in the middle of the nineteenth century, ermine skins were sold for one needle each. At the end of the nineteenth century I myself witnessed how the smaller skins, such as an ermine, white hare, and a fat duck were sold for 5 cpk., *i.e.*, 2½ cents each, or twenty skins for one rouble (a half-dollar, in American money).

After centuries of the plundering methods introduced by the conquerors, the peltries are no longer abundant. Reindeer herds, also, were reduced and the food resources decreased, resulting in the deterioration of the health of the people, physical and psychological. Alcohol and diseases, brought by the Russians, inevitably led to the exhaustion of the native population. And in the course of the years, there was established a notion most fatal to the north and its inhabitants. "The native tribes of the north are dying out. And there is no chance to save them from extinction." So the functionaries strove to extract more profit for the State, giving no care to the people who brought to the State the fullness of the riches of the north.

The revolution brought to the north the utter destruction of the material sources of life. The civil war stopped the bringing of flour and of fabrics, of material for nets, of steel traps and ammunition. Private trade ceased, and the new trade organizations had little experience and still less merchandise to sell.

The native population was in danger of extinction through utter exhaustion. Fighting companies, pursuing each other in the country, fed on the natives, slaughtered their reindeer and drove their driving animals, reindeer as well as dogs, to death, bringing the whole economic life of the natives to the brink of destruction.

With the gradual return of peace, the trading organizations of the newly formed state brought a new sort of trouble to the north. They wanted only increase of their traffic and their only purpose was to collect more pelts, squirrel or fox, or indeed anything fit for export abroad. So the natives, in order to get some powder or cornmeal, hunted fur bearing animals regardless of their condition, and contrary to their own professional knowledge they killed, for instance, young white fox cubs with skin unfit to wear and undervalued, thus devastating their own hereditary grounds.

Lead and powder still remained scarce, so the hunters had to construct all kinds of traps of primitive pattern which too often destroyed immature animals unfit for trade. Having no nets, the natives could not resume fishing; so they constantly lived on reduced rations. The quantity of wares and provisions brought to the market for trade increased yearly, but the quality remained inferior. And especially bad were the hunting and fishing accommodations.

Then again, the best fishing and hunting grounds, occupied of old by the natives, were on the point of passing into the possession of other men. The prohibition for the Russians to enter the territories of the northern natives, which existed before the revolution, was now disregarded. All kinds of adventurers, in quest of easy gain, entered the tundra and the forest country, forcing the natives to give way before their onset and to clear their own land and country for the benefit of the Russians.

The conditions of native life in the north were admitted to be catastrophic. There was urgent need to introduce some comprehensive and efficient changes. So the Committee of Assistance to the Lesser Nationalities of the North was established in 1924 as a special organization for this purpose. One of the initiators was Professor W. G. Bogoras, who in 1923 presented to the *Narkomraz* (People's Committee of Nationalities, a kind of second chamber of the State organization of that time) a special memoir to that effect. The president of the Committee was, from the beginning, P. G. Smidovich.

Twenty-five of the lesser nationalities of the north come within the scope of this Committee. They may be divided into four groups.

1. Northern Finns, among whom are the Lapp, the Ostyak, the Vogul and the Samoyed.

2. Palaeoasiatics, among whom are the Yukaghir, the Chuvantzi, the Chukchee group, *i.e.,* the Chukchee, the Koryak, and the Kamchadal. Among the Kamchadal only one group of about 1000 men still speaks their old language. This group is at present called by the ancient Kamchadal name *Itelmen.* The word *Itelmen* is probably a contraction corresponding to Koryak *Oyamtavilan* and Chukchee *OrawеLan,* and means "man." This group inhabits the western shore of the peninsula with the Khargiusova Village for its center. All other Kamchadal have adopted Russian, namely a local dialect with curious phonetics and grammar. The Kamchadal number about 7,000. Other inhabitants of Kamchatka (about 25,000) are either of mixed blood or are recent immigrants and colonists from the Amur River. So in the modern terminology of the northeast the Kamchadal are those who have lost their Kamchadal language, but have preserved most of the ways and the pursuits of their ancient material culture.

To the same group of Palaeoasiatics belong the Gilyak, both on the continent and on Saghalin Island, and the Ket (Yenisseian) on the Lower Yenissei.

The Asiatic Eskimo of East Cape and of Indian Point (Cape Chaplin), along with the Aleut of the Commander Islands, must be listed with the Palaeoasiatics.

3. Tunguso-Manchurian group with two branches, consisting of the Tungus people and some smaller tribes living in the Amur country and speaking a language of a Manchurian type.

The Tungus are scattered in small groups all over Siberia from the Obi River on the west to Kamchatka on the east. Among them must be included the Tungus proper and the Lamut who, however, differ from the other Tungus chiefly in language.

The Manchurian tribes on the Amur River are: the Gold, the Ulcha, the Orocha, and the Ude. The last two inhabit the Pacific coastal region to the south of the Amur. Here belong too the Orok of Saghalin. The Negidal and the Samaghir tribes of the Amur River country must be mentioned together with the Gold..

The Dolgan, a tribe living on the tundra westward from the Lena River must be mentioned either with the Palaeoasiatics or with the Tungus-Manchurians.

4. From the Siberian Turki tribes within the scope of the Committee of the North come the Karaghas and the northern part of the Soyot. The type of reindeer breeding of the two is perhaps the most ancient of all groups of the same pursuit.

The regulations of the Committee include the following articles:—

1. Elucidation and exposition and then introduction, in the established legal way, of all measures necessary to the economic progress of the north, especially to improve the means of communication and forward the regularity of trade and exchange in the northern territories.

2. Assistance for introduction into the daily practice of life of all measures and prescriptions in accordance with the previous paragraph.

3. Collecting facts and data, referring to the life and necessities of the native tribes, and the study of their history, material culture and other conditions of life.

4. Exposition of measures necessary for guarding the native tribes against despoliation by more crafty neighbors of stronger nationality, the Russians as well as the Yakut, the Buryat, the Komi-Zyrian, etc.

5. Exposition of plans for the amendment of existing legal forms, referring to the lesser nationalities of the north in accordance with the geographical conditions of the north and the peculiar character of the native life and thought.

6. Composing of elaborate schemes, duly qualified for the organization of administrative, judiciary, and financial functions.

7. The fixing of subsidies and of all sums of money which are to be allotted for the work mentioned.

8. The execution of new decrees and orders, issued by the presidium of the Central Executive Committee of Russia, in all cases referring to the lesser nationalities of the north.

Even the old official names of the native peoples are being changed on the explicit request of the natives, since these names often represent only nicknames given to the northern tribes by their more cultured neighbors. Tungus in the

Yakut language means ''swine,'' the Tungus call themselves Ewunki; Samoyed in Russian means ''self-eaters,'' but is probably a misinterpretation of ''raw eaters,'' just like the Indian name of the Eskimo, ''Eshkimandzik,'' ''raw-eaters.'' The Samoyed call themselves ''Nenaz,'' which signifies ''man.''

A peculiar type of so-called ''cultural bases'' was introduced. These bases represent special settlements for work among the natives arranged in the very middle of native territory at a distance from Russian settlements and villages. Their organization proceeds but slowly because of the difficulties of communication and building. Still, in 1927, three such centers had been built and established for action. These were:—

1. The Tungus Cultural Base on the Tura River, an affluent of the Lower Tunguska River.
2. The Samoyed Cultural Base in the Komi-Zyrian country on the system of the Pechora River in the land of Koseda Khard.
3. The Chukchee Cultural Base in Lawrence Bay in the Chukchee Peninsula.

Each cultural base includes an hospital, a veterinary institution, a school of higher type, a cooperative store, a standard reindeer herd, and some model workshops for operations with local material. The local board of officials and the clan and tundra council, elected by the people, are also established at these centers. The idea of the Committee of the North is that the cultural base will gradually become the real center, the capital of each tribe, a city created, regulated, and run by the exertions and will of the tribe itself.

II

The most important need is the support of the pursuits necessary for the very existence of the natives, such as reindeer breeding, fishing, and hunting. As to reindeer-breeding, detachments of veterinary surgeons were moved to the north in order to reduce the diseases harrowing the herds, mostly of contagious character. Such are the hoof disease, scab, and worst of all, reindeer anthrax.

For the increase of the herds, especially among the Tungus, also among the Ket and the Ostyak, the acquisition of live reindeer was arranged in the districts which were safe from disease and ruin. The reindeer were distributed on credit among the various groups and families. For the winter of 1928 the Committee is considering the question of State insurance of all the reindeer on conditions favorable to the half-ruined economics of the reindeer-breeding tribes.

The evident exhaustion of fur-bearing game in the northern territories must be prevented by measures for the protection of the fur-bearing animals of Siberia against their ruthless extermination. A motto of this protection is: ''From the usual hunting pursuit to well-organized hunting economics.''

So in 1927 the Karaghas hunting reservation was established on the territories owned by the hunters and was placed under special regulation as to the number of animals to be killed yearly, together with periodical suspension of hunting for a fixed term on a definite section of land in order to maintain some degree of abundance of fur-bearing and hoofed animals.

In several other places were reëstablished the sections and even districts where hunting was formerly suspended. New suspensions of the same character have also been established. A special code of hunting laws and regulations is being introduced.

Disorganization of trade and lack of necessary merchandise, as indicated above, was quite distressing to the native population. When following this period, five or six years ago, trade was resumed, merchandise was scanty, but the trade organizations were more numerous. They came from every part of Russia in quest of peltries, of sable and squirrel, and bitterly competed with each other, giving the natives in return various wares and supplies, often even not very necessary, and, as a rule, of inferior quality. The wares were given on credit and the natives were burdened with debts which they were unable to pay.

In short, all the commercial habits of olden times were simply resumed. The Committee of the North introduced some essential changes. At present, in the northern districts only two organizations are trading, one, a branch of the State organization, another connected with local cooperation. At the same time the quality of commodities is rapidly improving and the assortment is adapted to local needs, so that a sufficient quantity of arms and munition, fishing tackle, nets, barrels, salt, rye flour, and textile fabrics, are brought into the country.

Some supplementary measures have also been introduced. The Maritime Chukchee, for instance, obtained whaleboats of civilized construction. The desire to bring special schooners for maritime hunting for use by the Arctic Chukchee and Asiatic Eskimo, is also about to be realized.

Last and not least should be mentioned the entire reduction of taxes of whatever kind as introduced on the solicitation of the Committee of the North four years ago. Tax-collecting does not pay in the North. Expenses would exceed the income, as actually did happen in former times.

Military service for the natives was also abrogated. Their dwelling places lie too far away from the central regions and the population is too sparse to arrange the drilling on the spot.

The natives of the north have great artistic ability, so their work in embroidered skins, fur carpets, coats and boots, bone carving, etc., was, even in former times, highly appreciated by their neighbors and a kind of market in such commodities existed at several points. Some of the objects, through the whalers and merchant schooners of the Pacific came to Alaska and San Francisco. The Committee of the North arranged an agreement with the Russian Union of Productive Cooperation for the organization of new markets for the native manufactured work.

One of the most important questions of the north is the surveying and the delimiting of the fishing, hunting, etc., territories owned by the native tribes. It is of the greatest importance in the districts where the self-willed immigrants from the south come to settle among the native inhabitants. The Committee of the North began the immense work of this native survey in order that the territories occupied by them of old, and also sufficient in extent for their existence, would be legally fixed as their national possession. Native assemblies and councils everywhere take an active part in the work of the survey, especially where some controversies and misunderstandings exist between the native inhabitants and the later colonists of Russian, Finnish, or Yakut extraction. The work of the survey will bring about not only the securing of the native territory, but it will in the end form separate districts for native habitation.

National consciousness grows steadily among the peoples of the north and one may hope that districts representing national autonomical units will be formed without much delay. So we have in view the formation of a Samoyed unit in Europe and Asia,[1] a Chukchee-Koryak unit in the far northeast, etc.

III

In order to secure the best administration for the natives, the Committee of the North brings them active assistance in establishing local organs of self-government in each district. Everywhere, in the forest and on the tundra, native assemblies meet twice a year, where the members of their clan or territorial councils are elected and their activity controlled. Councils also existed in former times, but their influence was illusory and real authority was vested in Russian officials and partly in the richest of the natives, who were most frequently of mixed-blood and even called themselves Russian and were in close contact with the authorities.

At present some real self-government is coming into existence. The foremost are some Tungus and partly Samoyed groups. The Tungus try to make an effective stand against the Buryat and the Yakut, who succeeded of old in dispossessing them from their best hunting and grazing lands, and the Samoyed defend their pastures on the tundra against the large reindeer-owners of Zyrian nationality, who in the nineteenth century moved into the tundra and even as far as the border of Finland in the west, and the Yenissei River in the east.

In connection with the self-government of the natives arises the question of native jurisdiction which must be carried out according to their common law as is indicated in the ''Temporary Regulations of the Jurisdiction of the Native Organs of Administration,'' issued in 1927.

In education, the Committee of the North promoted, by every means possible, the activity of the People's Commissariat for Public Instruction in the establishment of series of schools and in improving the quality of teaching in the native districts. The number of schools increases yearly. In 1926–27 there were twenty-five native schools with free board and clothing for the pupils. In 1927–1928 their number increased to thirty-five with eight hundred pupils. In 1928–1929 their number will reach fifty.[2] Primary books and special readers were composed and edited for use in these schools. Among others, two readers were composed by the authors of this report.

There exists, moreover, a special college for the more able youths of native extraction. In Khabarovsk and Irkutsk local branches of the Committee of the North strove to found special Pedagogical Technicums for native students.

For medical assistance to native populations, mobile groups are arranged, with the staff consisting of one physician with a couple of assistants specially trained for the purpose. There were, moreover, in 1925–1926 twenty-six ambulatory hospital units and in 1926–1927, forty-seven. Besides the medical work, most of the physicians take part in various cultural activities.

''For the native and through the native'' is the motto of all the cultural work of the Committee of the North.

Museum of Anthropology and Ethnography,
Academy of Sciences, Leningrad.

---

[1] Established in July, 1929 (W. B.)

[2] One hundred schools with three thousand pupils, July, 1929 (W. B.)

THE ANCIENT AND PRESENT KAMCHADAL AND THE SIMILARITY OF THEIR CULTURE TO THAT OF THE NORTHWESTERN AMERICAN INDIANS

By Waldemar Jochelson

THE Kamchadal country, discovered and its conquest begun by the Russians in 1696, was their most valuable acquisition in the Far East because of its wealth of valuable peltries. The Russians had learned from the Koryak that the furs received from them as tribute were obtained, through exchange, from the Kamchadal. This knowledge led to a military expedition to the Kamchatka Peninsula.

The ancient Kamchadal were proud, independent, inclined to wrath; their passions were easily aroused; they took offense readily and sought to avenge themselves by any possible means. They had no fear of death and were incapable of intimidation. As a demonstration of the psychology of the old Kamchadal, we may cite some historical instances of their relations with the Russians before their final pacification.

In the winter of 1712 a detachment of twenty-five Cossacks under the command of their chief, Antzyferoff, endeavored to collect tribute from the Avacha Kamchadal near where the fortress of Petropavlovsk was subsequently established. The Avacha Kamchadal were informed of the imminent arrival of the collectors and built a solid block-house on posts with secretly lifting doors. In summer, the old Kamchadal used such dwellings built on platforms raised on piles. The Russian were met with simulated pleasure. Amid mutual professions of friendship, the transactions began, the Kamchadal readily surrendering a number of their principal men as hostages for their good behavior. At night they retired with the Cossacks to the pile-dwelling. But the natives had planned to burn the building during the night with all the Russians, while their own men escaped through a secret passageway. But after the pile-dwelling was fired, the Kamchadal, learned to their horror, that their hostages had been chained by the Cossacks, so that escape was impossible for them. The hostages, however, pleaded with their kinsmen outside to let the holocaust go on if, by perishing themselves, they could secure the destruction of the enemy; so all in the building perished together.

From the very beginning of the occupation of the country by the Cossacks, numerous local revolts took place. Rebels and victors were equally merciless in their encounters.

In 1731 a general uprising of the Kamchadal, which had been fomenting for a long time, broke out. The Kamchadal attacked the Russian fortress, Nishne-Kamchatsk, and took possession of it. Then a detachment was despatched to take Verkhne-Kamchatsk and Bolsheretzk, and everywhere the Russians were slain. But it so happened that the ship *Gabriel,* belonging to the military expedition of the Cossack chief, Shestakoff, which left Petropavlovsk for Anadyrsk before the uprising, unexpectedly returned to Avacha Bay because of an impending storm. The sudden return of the *Gabriel* saved the Russians on the peninsula. With the assistance of the sailors, Verkhne-Kamchatsk and Bolsheretzk were successfully held, Nishne-Kamchatsk recaptured, and the revolt cruelly suppressed. Some Kamchadal leaders of the revolt, overtaken in their flight by the Cossacks, slaughtered their wives, children, kinsmen, and dogs, and killed themselves.

The subjection of the Kamchadal coincides with the Government monopoly in furs, when fur tribute was the cause for which thousands of men were tortured and killed whenever they refused or were unable to satisfy the rapaciousness of the foreign invaders. The situation of the Kamchadal was particularly tragic as the sable, for which the Russian demand was greatest, inhabited Kamchatka and not the territories to the north of it. Besides tribute for the Government, the Russian chiefs and Cossacks demanded sables for themselves. Frequently, when leaving Kamchatka, a Russian commissar carried away many hundreds of sable skins.

After the suppression of the revolt, the Government sent a commission to investigate the cause of the uprising. The investigation lasted from 1733 to 1739. Sentences of death were pronounced by the commissioners on several Kamchadal chiefs and other instigators of the uprising, as well as on Cossacks convicted of extortionate demands and other criminal actions towards the Kamchadal.

The Kamchadal were pacified and their psychology has completely changed. They have a pitiful and humble appearance and carry out each and every order of officials, either Cossacks or Russians in general. The process of Russianization, combined with two centuries of oppression, has produced this change in the primitive character of the Kamchadal. This change, however, did not take place suddenly, but the tense energy of the people displayed in the general uprising was broken, never to be recovered.

On the other hand, the number of the Kamchadal has greatly diminished and sanitary conditions among them have become threatening. In the time of Krasheninnikoff, about two hundred years ago, there were about fourteen thousand Kamchadal; now they number only thirty-five hundred and fifty-five. The country between Avacha Bay and Lopatka, where, in ancient times, numerous villages were located, the coast-line and the interior are at present totally uninhabited. This condition also exists on the southwestern coast between Bolsheretzk and Lopatka. With the exception of two small Kamchadal villages, Yavino and Golyghino, and a recently established Russian fishing station at the mouth of the Osernaya River, the whole country, including the region of Kuril Lake, is at present uninhabited.

The Russian conquerors have exercised a disintegrating influence on the family life of the Kamchadal. Among the Kamchadal unchastity has been more or less common in the case of girls before marriage and women after marriage. The Russians took advantage of this custom and thus syphilis and other hereditary diseases brought by them were spread among the Kamchadal. In twenty-six villages of the western coast of Kamchatka, out of a population numbering twenty-five hundred, two hundred and fifty (*i.e.,* 10 per cent) were, according to my census, cripples (blind, deaf mutes, hunchbacked, lame persons, and so forth); particularly were there many blind people, an average of one per cent; and half of the population suffered from eye diseases. In Kharyuzova Village, which had two hundred inhabitants, I found eleven blind men and women, *i.e.,* 5½ per cent of the population were blind. Only the infusion of fresh blood will save the Kamchadal from extinction. The Kamchadal are conscious of this condition. During the last fifteen years Russians from the Amur Region have immigrated into Kamchatka. Some Russian adventurers coming from Vladivostok after the Russian-Japanese War were welcomed and adopted by the villagers of the western coast of Kamchatka, and the hunting rights of their territory were extended to them, provided they settled there.

The material culture of the Kamchadal is more similar to that of the Indians of northwestern America than to any tribe of northeastern Asia. A considerable part of the Chukchee and Koryak, tribes kindred to the Kamchadal, are nomads possessing domesticated reindeer, a type of culture which may be regarded as common to the northern tribes of Eurasia. The Kamchadal, however, did not adopt this form of husbandry. Living on river banks or on the seacoast, they remained a fishing people *par excellence,* though it should be noted that some families in northern Kamchatka possess small herds of reindeer. While some members of these families wander with the herd, the others continue to fish. It should be added that the herders wander about not far from their villages. Often two or more families combine their reindeer herds so that fewer herders will be required. But, on the whole, the Kamchadal are a fishing people making their living from the water. As a change from the fish diet, they hunt wild reindeer or mountain sheep in the high valleys of the upper courses of the rivers on which they dwell.

While the Chukchee and Koryak, in common with the American Eskimo and Aleut, use the skin boat (the small kayak and the large umiak) for sea hunting and travel, the Kamchadal have no skin boats. For traveling up and down their rivers, they use dug-outs or canoes made of boards. To carry freight or travelers they join two or three boats, but they are not a sea-going people. Occasionally they kill seals and other sea mammals, but they reach the rookeries overland and not by sea, or obtain the sea animals when they enter the river in pursuit of migrating fish.

The mythology of the Kamchadal is reminiscent of that of the Tlingit. The Kamchadal Creator Kutq has great similarity to the Yelq of the Tlingit. Although the Koryak and Chukchee have similar tales of their forefathers, the Kutq of the Koryak and Chukchee, known under different names, is not conspicuous among their other supernatural beings as with the Kamchadal. Particularly is this true of the Chukchee, who adopted some religious ideas from the Eskimo, as, for instance, the conception of a sea-deity.

The streams between Alaska and California and the Kamchatka rivers are visited by the same species of salmon. The Kamchadal and the northwestern Indians apply the same fishing methods. When the salmon pass, the Kamchadal and Indians alike dry and smoke them for the winter. The Kamchadal pound the dried fish in mortars, as do some of the Indians.

Preparation of vegetable food also has some similarities. On both sides of the Pacific, several species of roots and grasses are gathered, dried, and pounded fine. The pounded fish and roots are mixed with berries and fish oil.

The Kamchadal and Northwest Coast Indians live in permanent villages.

The structure of the Kamchadal language, forming, with Chukchee and Koryak, a kindred group, has much in common with the structure of the languages of the Northwest Coast Indians. There were formerly several dialects, those of the Kamchatka River, of the eastern shore, of the western shore, of the Tighil River, and of the southern part of the peninsula. At present only two dialects are extant: that of seven villages to the south of the Tighil River and that of Sedanka Village on the Tighil River. The Sedanka dialect contains many Koryak words. Both dialects contain Russian words and the time is not distant when both dialects will become extinct, since the younger Kamchadal generation learning Russian in the schools will soon use the Russian language exclusively.

American Museum of Natural History,
New York City.

MUSICAL STYLES IN NORTH AMERICA

By George Herzog

THE study of American Indian music is still in its beginnings and can, as yet, make few positive contributions to the general historical problems of American Indian culture. The recorded material is but a small part of what we need for the solution of historical problems. Phonographic material available is scattered in various collections and most of it has not been analyzed or even searched through. Musically, not one of the generally recognized culture areas of North America is adequately known, to make comparisons of the results of musical study with those of other cultural phases, fruitful. The number of detailed representations of musical styles is very limited. Not until we have many more, can we plot in detail the distribution of musical traits and styles in North America. Nevertheless, some musical features and types occur so widely that it is necessary to point to their distribution even at the present time. However, the present paper should be taken as a preliminary and tentative suggestion of distributions, as far as known.

Attention may be drawn to one aspect of Indian music which should be kept constantly in mind, that is, to Indian singing techniques. In all primitive singing there are certain conventionalized manners of execution which are more or less strange to our musical ideals and which have been absent from our musical practices for a very long time. Such features are strong accents, glides, ornamental tones, shouts, the use of peculiar timbres of the voice, and the like. Our feeling is that such details are accidental, that they merely adhere to the music, even obscuring the melody. However, actually, singing technique is as important a phase of musical styles as are the other phases, melody, rhythm, and form. There are many instances in primitive music which demonstrate that new melodic, rhythmic, or formal growth and modification is most likely to set in at points which were distinguished before by "*non*"-musical or "*un*"-musical touches only: by the peculiar devices of the execution. This, in short, may point to the significance of the technique of delivery from the strictly musical standpoint. The influence of singing technique upon melody and form is quite analogous to that of technique upon shape and design in the pictorial arts. In music, the effects of such influence may be even more far-reaching. But, for the ethnologist, manners of singing have an added significance since they represent largely motor habits and often tend to persist to a considerable degree. At least, the very wide distribution of some singing habits would point to their antiquity.

The views outlined were first emphasized by Doctor von Hornbostel. In addition, he was the first to call attention to the wide distribution of a typical manner of singing throughout the western hemisphere. This manner of singing, according to his description,[1] is characterized by several traits. One of the most striking features is strong accentuation, often on every beat, resulting in figures like that of an accented 1/16 plus an unaccented dotted 1/8. Another feature is the breaking up of long tones into smaller time-units by even pulsations of the voice. Finally, the melodic outline very often consists of a succession of small, descending steps, rendered with a strong legato or glide. All of these traits are related to each other, since they are all based on the same principle, that of linear addition of small, equidistant units. Drum or rattle accompaniment, also, commonly consists of equidistant beats, or repetitions of a constant figure. The distribution of these features is correlated to a great extent with that of special traits of structure and melody, but this problem can hardly be attacked in the present state of our knowledge.

---

[1] See v. Hornbostel, E. M., chapter Musik und Musikinstrumente in Koch-Grünberg, *Vom Roroima zum Orinoco,* Vol. III, p. 408, Stuttgart, 1923. Cp. also the discussion in *Zeitschrift für Ethnologie,* 1912, p. 831.

Indian singing, almost invariably, impresses us as very emphatic and tense, the successions of accents, of drum beats and of pulsations occurring simultaneously, convey the feeling of very forceful but balanced progression. Hence, it is not difficult to recognize a melody as Indian, after one has heard a few. Some of the single traits which in their entity convey these impressions to us are, no doubt, found in other parts of the world too. But, as a rule, where they appear, they are not emphasized and they are never combined into the unified manner we find in America. Furthermore, elsewhere, such isolated traits of this complex are not found together with those melodic and formal features whose distribution is very largely correlated with this manner of singing in North America. On the other hand, these traits are not equally stressed everywhere in America.

These considerations, taken with the immense distribution of this singing technique in America, was the basis for v. Hornbostel's characterization of this manner of singing as typically Indian. In detail, these singing practices are known to be prevalent among the Eskimo, on the Northwest Coast, in northwestern California, in the Eastern Woodlands, in the Plains, the Southeast, and the Southwest. (Southwest stands in this connection for the Pueblo, Navaho, and Apache only.) These areas are sufficiently known practically to exclude the possibility of discovering conflicting evidence, or at least to render such a possibility very likely.

The situation is the same for South America. All the musical evidence we have shows the presence of the features mentioned. Although our knowledge of South American Indian music is otherwise very scanty, it can be safely inferred that these features are very widely distributed throughout the southern continent too.

Lastly, the songs of several tribes in Eastern Siberia show the same features again. This was first observed by v. Hornbostel on the songs of the Orochi; later I found the same singing characteristics in songs of other tribes. The exact Siberian distribution is not known.

The territory in North America which is known to have the usual Indian singing technique has a geographical gap. This gap contains tribes whose music is hardly known at all, those of California and the Great Basin. In the extreme southern parts of this area I have found, in the course of field-investigations, that most Yuman tribes and also some other groups, do not have the usual Indian singing characteristics.

The singing technique of this area can be simply characterized by the absence of the traits upon which I expanded before. Largely coexistent with this singing technique is a certain simplicity of the tonal development and comparative narrowness of the melodic range which, again, is unusual and somewhat in contrast with what are known as usual types in Indian music. The Yuman style itself is a specialized development within the area; it has some quite unique traits, outstanding not only when compared with the known Indian types, but also when viewed from the larger range of variety of types found in primitive music in general.[2]

Taking North America broadly, then, we find on the basis of singing technique, that the bulk of North America can be assigned to two easily distinguishable types, *A* and *B*. Type *A* has a very wide distribution, Type *B* a very limited one. Type *A* is also present in South America, wherever we have musical information and was found also in Eastern Siberia.

The immense distribution of Type *A* suggests that this technique and much of the musical detail found to be closely correlated with it, are of very ancient origin. The fact that it has been found in Northeastern Siberia may suggest that these traits were carried along from Asia and did not develop in the New World. But the alternate explanation through more recent back-flow cannot be left out of consideration, until the exact distribution in Siberia is known. Collections of songs from Siberian tribes, as yet unknown musically, would seem therefore to be of great importance.

Type *B* occupies a comparatively small area and the plotting of the extent of this area is another task to be taken up. So far, this type has been found among the Yuman tribes, the Pima and Papago, and the Serrano and Cahuilla. Toward the east and the northeast there is no transition into Type *A*. In the south, Mexican and Central American Indian music, in general, has been sadly broken down. Unless we find reliable and uninfluenced song-material in these countries, the southern limits of Type *B* will not be known.[3] Toward the north and the northwest are the California and Great Basin areas in which extensions of the distribution of this type will presumably be found.

The area of Type *B*, as far as known, corresponds to those of the mythical, dreamt song series, of a certain simplicity of the melodic development and of the predominant use of the gourd rattle. However, there is considerable overlapping: To mention one instance only, the Pima and the Papago have the Type *B* singing technique, but the melodic structures are rather of the type which is largely correlated with the *A* singing technique. Undoubtedly, the reverse case will also be found.

---

[2] In the present connection I have avoided a presentation of the technical details. For the technical analysis see my Yuman Musical Style, *Journal of American Folk-Lore*, Vol. 41, No. 160, pp. 183 ff.

[3] As far as our information goes, the northernmost tribe in South America known to have Type *A* is the Toba in Bolivia. See Stumpf, C., *Anfänge der Musik*, pp. 137–139.

The importance of mannerisms of singing seems clear from these broad considerations of American Indian music. It seems to follow that singing technique is a useful instrument for historic reconstruction. With regard to this point, however, it should be kept in mind, that the view taken when dealing with singing technique is a broad one which is useful to establish relations or distinctions in a broad sense. More detailed processes and problems will have to be taken up through the study of melodic, rhythmic, and formal traits, in addition to manners of singing.

COLUMBIA UNIVERSITY,
NEW YORK CITY.

FORM AND INTERPRETATION IN AMERICAN ART

By Gladys A. Reichard

LATE in the nineteenth century it became the fashion to apply the evolutionary method to problems of culture. Naturally art was not neglected in making the applications. Haddon had perhaps the greatest influence in this direction, an influence which is strongly evident in England at the present time, as shown by museum exhibitions and in many writings. A necessary part of the method in tracing evolutionary development is the urge to interpret patterns. The investigator using this approach projects himself into the problem with some knowledge of customs prevailing, but with little or no acquaintance with the artists themselves. Thus Haddon[1] derives the spiral from the frigate bird; Holmes[2] the spiral and fret from the alligator; and MacCurdy[3] a double zigzag pattern executed in hatching or chevrons from the tail of the armadillo. In making these derivations the investigators set a number of design motives in a series which varies from simple to complex and call it evolutionary (a term which implies progressive). Or, the series may be arranged from complex to simple and the process called degeneration.

The arguments against these methods are as follows:—

1. In none of these works is the exact chronology of the specimens known. Haddon, after a whole treatise on the process of evolution and degeneration, states:—

> "Unfortunately in the examples given in the earlier pages of this book, as in those presented by other writers, we are not in a position to definitely affirm that one particular design is genetically related to another one."[4]

In other words, we are rarely in a position to determine whether a complex design preceded or followed a simpler one. From what we know of modern primitive art both possibilities occur and do not necessarily point to progress or to degradation, but merely to difference of taste.

The only way in which a typological classification can be used to determine origin or development is when it is combined with exact chronology, or in the case of archaeological finds, with exact stratigraphy. But we find that even among archaeological remains all types may be contemporaneous and thus the problem of such material must be looked at from the same viewpoint as modern material where the artists cannot be interviewed.

2. Interpretations are made from the investigator's point of view and naturally he does not view life in the same way as the native. He may see an alligator or an octopus where a native sees only rectilinear or curved designs merely as decorative motives which pleasantly fill a space. Numerous works on North American material have shown the danger of projecting the attitude of the scien-

---

[1] *Evolution in Art.*

[2] *Sixth Annual Report, Bureau of American Ethnology,* p. 182.

[3] MacCurdy, G. G., *A Study of Chiriquian Antiquities,* New Haven, 1911, pp. 61–62.

[4] *Evolution in Art,* p. 311.

tist seeking symbolism into the designs of the artist who does not necessarily feel it, or if he does, feels it in a much different way.

For many years certain students of the American school have realized that the approach here summarized must yield false conclusions. They have therefore taken up the problem from another angle. They have encouraged the analysis of art styles in different areas. Notable among these analyses, to mention only a few, are the works of Boas on the art of the Northwest Coast and of the Eskimo, of Kroeber and Dixon on designs of California and of the Plains, and of Wissler on Plains art. These earlier studies have shown the relative futility of seeking origins and interpretations through a study of purely objective material. But they have shown that an investigation of such material may nevertheless yield other results which are more satisfactory. They have led also to the development of a more ideal method which may be used in cases where the art work of a people is still alive.

The latest results of this method have recently appeared. They are *Coiled Basketry in British Columbia and Surrounding Region* by Haeberlin, Teit, and Roberts,[5] and *The Pueblo Potter*[6] by Ruth Bunzel. These students had much museum material at their disposal, but they were also able to interview artists as to their motives. The work of Haeberlin met so many misfortunes because of his early and regrettable death that it most certainly loses much that he could have given it. Nevertheless, it contains much valuable material which shows always a struggle between managing a complicated technique and carrying out art impulses based upon traditional taste not suited to the technique. In some cases the artist was victor, but in others the technique over-ruled. Miss Bunzel found in her study of Southwest pottery that technical considerations may somewhat influence the form but by no means are they determining. For, after a form has been completed very few limitations are placed on the way it may be painted.

Miss Bunzel obtained most particularly data on the likes and dislikes of the artists and their own explanations as to why they approved or disapproved of a decoration. For example, the Zuñi and Santo Domingo potters favor line as against mass in their painted designs. But the Santo Domingo potters use black much more extensively than the Zuñi. When Miss Bunzel showed a Santo Domingo design to a Zuñi woman she asked if she might copy it because she liked it. However, she did not make the Santo Domingo form but copied it on her own Zuñi-shaped pot. When she came to filling in the lines she hatched the design which the Santo Domingo woman had made solid black with the remark that, "Making it black would make it look too dirty." She here expressed a very strong emotion which she had acquired through tradition. Her taste had been developed and she could not bring herself to depict that which according to her standards was ugly.

Frequently, when discussing the problem of art style with students who are not familiar with this method the objection is made that artists themselves are not conscious of what they are actually doing. Miss Bunzel has secured material to corroborate this fact. When asked about the "best" way of dividing a field for decoration her Zuñi informants answered with no hesitation that a fourfold division was ideal. On examining the pots however Miss Bunzel finds that a threefold or sixfold division is far more common than four. The native interpretation may be easily understood, since four is the sacred number of the Zuñi and the one which is uppermost in their minds. The psychological process is exactly the same as that of the investigator who sees crocodiles or frigate birds in many designs, no matter how far-fetched the interpretation, merely because that interpretation is uppermost in his mind.

---

[5] *Forty-first Annual Report, Bureau of American Ethnology,* Washington, 1928.

[6] *Columbia University Contributions to Anthropology,* Vol. VIII.

Haeberlin, in questioning about proportions of baskets, found that the artists thought they followed definite proportions. Upon actual measurement it is found that the baskets conform surprisingly to certain proportions, but they are quite different from the theoretical proportions the women mentioned. One must therefore in an investigation of individual or group taste realize that not all that the artists feel that they do is evident in the objects they make. The student will, however, always have the opportunity of checking these statements by actual analysis of the objects and thus will add very interesting subjective material to his objective study which will be a far cry from his own subjectivism.

Miss Bunzel's work has shown also that a new style may spontaneously arise due to the genius of an artist, to accident, or to other causes. Two very interesting examples may be cited. Nampeyo, a skilled Hopi potter who had seen the pots from the ruins being excavated at Sityatki, became interested in them, copied them, but with much modification, and was imitated by other potters, thus establishing an entirely new school of art whose style was not at all related to that which preceded.

A skilled potter of San Ildefonso was accustomed to making fine glossy blackware. One day, by accident, she discovered that a mistake in firing had given a dull effect against a gloss. She thereupon set out to develop this style and became the founder of a new school which has been very successful both among her own people and among the whites. The most outstanding features of this style are the application of design in masses by contrasting dull and glossy surfaces.

If we suppose now that remains of this style were found a thousand years hence with remains of the other pots of San Ildefonso where would we, using the old evolutionary doctrine, place these pots in relation to the other pottery of San Ildefonso which is polychrome line design? In this case the design must be subordinated to the technique to be effective. The artist was clever enough to solve her technical problem and did this, not by a gradual process of evolution but rather by a radical departure from the style of her group. If such occurrences take place among modern primitives whom we see at work it seems reasonable to suppose they may have happened in the past and would account for changes which we see and which some feel can be explained only by arrangements in series and seeking for "origins." They show also that development is not necessarily from the naturalistic to the conventionalized or geometrical, but may be the reverse.

Other results of the investigations mentioned have shown that "naming" of designs and "reading-in" of meanings is very common, but that true symbolism, symbolism which is understood by many members of a group, is rare.

The mass of data secured by investigations and checks such as these prompt us to emphatically disagree with a statement like Haddon's:[7]—

---

[7] *Evolution in Art,* p. 318.

> It is inconceivable that a savage should copy or adapt a certain design because it promises to develop into a more pleasing pattern.

Such a statement can only point out the fact that the author is too engrossed in his own hypotheses to preserve an open mind toward the mental reactions of his so-called "savages." We have no evidence to support the contention that primitive art has incentives other than our own and we have much to controvert it. What we express as "getting an idea" the native may express as "seeing in a dream" but the process is the same. The fact that objects are lavishly decorated which might be quite as useful (often more so) undecorated is sufficient proof that natives have a sense of beauty quite apart from a desire to copy nature.

But when we have resolved to preserve an impartial and objective attitude and since we know the reactions of some primitives at least to their art style, another question arises: Is there any value in a study of purely objective material such as we find in museums without any data about the way the native himself regards his art? My answer is: There is.

We have found that not all the things the artist *thinks* he does check with what he actually *does.* The museum material shows us what he really does accomplish and by analyzing it we may find solutions to many problems which concern art itself rather than theories as to origin or interpretation. Adjustments of form and design to technique can be settled. Questions of design such as treatment of line, mass, color, and background may be solved for given areas. If we have detailed studies of such generally distributed motives as the eye, scroll, and spiral, human figure, etc., we are certain to avoid generalizations or forming of "laws" which may hold for a given area, but which fall flat when universally applied. Analyses of various art styles to understand the treatment of line and space, symmetry, rhythm, and the like, yield results which are worth while in themselves, but which also give considerable insight into the likes and dislikes of the artists.

A study of distribution of elements and patterns based on detailed analyses will show also the historical development of design due to exaggeration of one motive or part of a motive, to slurring, carelessness, or to intensification of interest on one particular phase. Slavery to tradition as a factor of resistance is a force which is perhaps as strong as, or stronger than, the power of diffusion, but is too little understood.

If studies of this kind cause old "laws" to be broken they will only show that such laws perhaps had no basis in fact in the first place since they were founded on meager material and on the stilted taste of those who formulated them.

And even if, after many art styles have been analyzed and defined, we should discover—as we have every reason to suspect we shall—that all mankind does not react in the same way, that a taste for Gothic style or for curves, points, or frets, is not inborn but due to automatic habits of thinking and acting established by tradition, we shall at least have arrived at a scientific conclusion and we shall cease perpetrating a myth because it is something we like to believe. But most important of all, we shall have an intimate acquaintance with large bodies of primitive art which have real aesthetic value and which would otherwise remain unknown and unappreciated.

Barnard College, Columbia University,
New York City.

INDIAN GIFTS IN RELATION TO PRIMITIVE LAW

By H. Newell Wardle

GIFT-GIVING among North American Indians was an integral part of their customary law. Inextricably woven into the fabric of their economic, social, and religious life, it appeared upon the surface in patterns, often delicately beautiful, sometimes boldly conventional, occasionally bizarre. Yet, hitherto, it has failed of full appreciation: even the *Handbook of American Indians* omits it as a subject of record.

Gifts entered into practically all relations of life. They marked the stages of the child's growth and his passage through the orders of society. Communal gifts to the bountiful Mother Earth, to the beings who gave their flesh in return, were an essential part of agriculture and the chase. Gifts of friendship, adoption, tribal alliance, and personal honors wove together the social fabric. In his spiritual life, which was in fact inseparable from the physical, material, and psychical, gifts formulated his prayers. Finally, they accompanied the dead to the world of shades and wiped the tears from the eyes of the mourners.

Gifts were of two classes: those of affection and those of ceremony. To the first, belong gifts to children, to members of the family, however reckoned, and friendship gifts, such as the heart-shaped baskets of the Choctaw, or the beautiful Pomo baskets, made by one woman, and given to another—called "friendship baskets."

It is with the latter class the gift of social ceremony that this study is chiefly concerned. The dictionary defines "Indian giver" as "one who expects the return of his gift or its equivalent." The term has long been one of opprobrium.

Dorsey wrote of the Assiniboin: "Nothing is given except with a view to a gift in return." Maximillian, Prince of Wied, recorded of the Mandan and Minetaree: "If a person expresses a wish to possess some article belonging to them, he generally receives it as a present, but a present of equal or greater value is always looked for in return." Lewis and Clark found it "a bad practice to receive a present from these (Chinook) Indians, as they are never satisfied for what they receive in return, if ten times the value of the article they gave." Trade was preferable.

It is here proposed to demonstrate that this reciprocal giving conforms with the definition of primitive civil law, formulated by Doctor Malinowski:—

> "Civil law, the primitive law governing all the phases of tribal life, consists of a body of binding obligations, regarded as a right by one party and acknowledged as a duty by the other, kept in force by a specific mechanism of reciprocity and publicity, inherent in the structure of their society."[1]

The argument will be drawn chiefly from two tribes, representing widely different cultures—the Omaha and the Kwakiutl. Did time permit, it could be shown that other tribes followed the same law after the manner of their kind. Everywhere, gift and counter-gift are in evidence.

---

[1] *Primitive Law and Order.*

First the Omaha. The earliest gifts of the child, naturally made by proxy, are generally a return for services, such as ''turning the child,'' the ceremony by which it becomes a recognized member of the tribe. The priest speaks: ''What you have brought to me shall not be lost to you,'' and promises long life and possessions.

The youth, going forth to meet his supernatural guardian, lifted his heart in prayer and supplication, laying his life as an offering before the supreme power, *Wakoⁿda.* In return, he received his vision, a special gift of which the totem was the visible symbol. Whatever else he might acquire by industry or skill, he believed to have been given him by *Wakoⁿda.* All prayers before the sacred pole, prayers to *Wakoⁿda,* had to be accompanied by gifts.

When, as a man, he would ask health or any other supremely desirable thing, he offered his physical sufferings, precisely as a devout religieuse lays her sufferings as a gift upon the altar and looks for a greater return. The self-tortures associated with the sun dance of the Plains tribes are nothing less.

Other tribes, who have not reached the high level in religion, attained by the Omaha and kindred peoples, offered a gift of tobacco to Mother Earth, in return for which the Iroquois received a bountiful harvest of maize to fill their great granaries: or, like the Zuñi, made offering of prayer-meal to their little stone hunting fetishes, in answer to which came the game-animal, who must in turn be ceremonially thanked by the hunter for graciously giving himself for food.

The Mandan performed the buffalo dance, a mimetic prayer for a successful hunt, in which two old men acted the part of buffalo bulls. These received gifts for their services. Food—corn and beans—passed around at this ceremony, called for a counter-gift of song and prayer, which each partaker symbolically placed in an empty bowl. These, in turn, the buffalo were expected to requite with the yet greater gift of their bodies.

So deeply is this idea of reciprocal giving rooted in all things, that even the little prairie vole is drawn into the custom. Would the Dakota woman increase the variety of her fare, she takes corn and seeks the underground storehouse of a vole, to whom she presents her maize, and extracts an equal quantity of groundbeans which he had gathered.

The Pueblo tribes asked for rain by the offering of prayer-wands, a highly symbolical cult object, at once gift- and prayer-bearer to the gods.

The Omaha, however, knew that *Wakoⁿda,* the supreme life force, is the giver of all gifts, even unto the chieftainship, reached by long years of labor and of giving, since he owed it to the Unseen Power that had strengthened his purpose and granted him help.

The whole social fabric of the Plains tribes was built upon a framework of honors, usually spoken of as ''counts.'' Not only did the warrior count coup by touching a living or dead enemy and by other acts requiring courage, but many other deeds performed in times of peace had an even greater social and honorific value—making and presenting to the leader of the buffalo hunt his staff of office; the giving of feasts, feeding and clothing the needy; making gifts to notables, and to the sacred cultus objects (for their keepers); gifts of horses (probably dogs before the acquisition of horses) for nominal sacrifice on a grave —"gone to see the dead"—of consolation to the bereaved to terminate mourning; contributions toward peace, internal and external, gifts for a peace-making ceremony, picturesquely opened with a sham charge upon the invited enemy, but bearing the peace-pipe in lieu of weapons and followed by gift-giving, smoking and feasting, saving the life of a comrade or preventing his capture.

Women also made their counts, on work well done, such as buffalo robes dressed. Much of woman's work entered into the gifts of her husband. She trained the burden-bearing dogs, dressed the robes and otterskins, beaded or quilled the clothing and tobacco pouches, made the pottery, cooked the feasts.

She had, as it were, been married by gift and counter-gift; the first, from her suitor to her parents and kinsfolk; the last, a few months later, when gifts of about equal value were returned by her father at a feast given to the relatives of both families. Like the virtuous wife of the Hebrew Scriptures, she remained modestly obscure, save on a very special occasion. Her husband, whom the tribe delighted to honor, walked abroad, resplendant in eagle-feather war-bonnet. Each feather represented an honors count, not of its wearer, but of some friend, who, at the time of its making, rose, recited his deed which entitled him to the count, and added the feather to the regalia. It thus became a blazoning, not only of the esteem in which a man was held, but of the communal record of tribal worth. Rarely might a young man come to possess this mark of honor. A noted warrior might arrange to have a war-bonnet made and present it to a famous brave for his son. It was at once a challenge to the youth to emulate the deeds of the donor, and a great honor to the family, calling for valuable counter-gifts.

The beautiful *Wawa*^{n} ceremony of the Omaha, the *Hako* of the Pawnee, was also designed to do honor to a man of exalted character, through a formal adoption by a notable of another clan, or even tribe. It was far more than this, a cementing of tribal or intertribal peace by the elaborate and public creation of a fictitious blood-kinship, the giver of the ceremony bearing the pipe being known as "father," the recipient, as "son." More than that, the whole ritual centered around the little son of the "son," who thus stood for the future generations. The ritual was an elaborate interweaving of gift and counter-gift between the two groups represented, including the gracious feature of the dance of thanks, when any needy one might take the robe from the shoulders of the consecrated child, thus making the child the dispenser of sweet charity.

The ascent of a man in the ranks of the body politic was by means of a class of honor counts, already referred to, though not given their collective name, *Wathi*^{n}*ethe:* "something done or given, for which there is no material return, but through which honor is received." It stands for acts and gifts, which do not directly add to the comfort and wealth of the actor or donor but which have relation to the welfare of the tribe by promoting internal order and peace, by providing for the chiefs and keepers, by assuring friendly relations with other tribes. The *Wathi*^{n}*ethe,* therefore, were of a public rather than of a private nature, and while they opened a man's way to tribal honors and position, they did so by serving the welfare of the people."

This is the highest concept of the gift and counter-gift ever formulated. It rested, moreover, upon the solid foundation of worthwhileness. Courage, industry, skill and thrift were necessary in a man, would he enter the grade of *Ni'hagahi xude,* the Brown Chiefs, for the gifts required of him were eagles, eagle war-bonnets, quivers with bow and arrows, catlinite pipes with quilled stems, tobacco pouches, otterskins, buffalo robes, ornamented shirts and leggings, burden-bearing dogs, tents, pottery.

Selection to fill a vacancy in the higher grade, the *Ni'hagahi shabe,* the Dark Chiefs, they who rose above the level like a figure showing dark against the sky-line, was made from those who had the most honor counts, or whose *wathi*^{n}*ethe* followed a definite design, exhibiting the additional qualities of sociality, making for the spiritual and political well being of the tribe, likableness, generosity, sympathy, and love of peace.

From the Dark Chiefs were drawn the members of the Council of Seven Chiefs, the Old Men, and here also the highest offices were filled by those who could count the greatest number of *wathi*^{n}*ethe,* even to the one hundred counts independent of those required for his previous advancement. No mediocre man could enter even the ranks of the Brown Chiefs and the system was calculated to bring to the top men of the highest social value.

The gifts, which were the material basis of the honors counts, went ultimately into the hands of the Seven Old Men and the Keepers of Sacred Pole, the White Buffalo-robe—cultus objects. These officials, who, by reason of age and the duties of their offices, were unable otherwise fully to provide for their own needs and for the public demands, the entertainment, by the chiefs, of visitors, including the customary gifts to them, treaty gifts, etc. Actually, they constituted in effect a system of indirect and voluntary taxation for the support of established order and religion.

Agricultural tribes, living in permanent towns, such as the members of the Creek Confederacy, drew their governmental resources in maize from the fields directly to the granaries of the chiefs, and had not developed so elaborate a system of gifts. The spread of the wampum ritual throughout eastern America formulated and stereotyped reciprocal giving, so that intra-and extra-tribal ceremonies were made memorable and legal by the giving and counter-giving of wampum strings and belts.

.The early contacts of Europeans with Indian tribes and the subsequent interrelations of their governing bodies, attest to the widespread custom of reciprocal giving, in which the Indian, true to form, gave the greater, the ultimate counter-gift—this continent from sea to sea.

To pass from the Omaha of the Great Plains, to the Kwakiutl of the North-west Coast, is to meet the most striking contrast of character and of culture.

What the bison was to the Plains tribes, the salmon was to these. The inexhaustible sea made them rich, and they condensed their wealth into the tangible forms of blankets and "coppers"—the former, originally of mountain goat's hair; the latter, humanoid plates of native copper, characterized by the crests of their makers, and bearing individual names. Around these two classes of valuables, the social, economic, and ceremonial life revolved, drawing into the vortex canoes, carved chests, haliotis ornaments and all the minor treasure.

The Kwakiutl were divided into numerous sub-tribes and clans, which fell into opposing camps constantly at rivalry with one another. Between these rival groups, the "coppers," the blankets, and other valuables estimated in terms of blankets, passed back and forth in a system of ceremonial exchange only comparable to the "Kula" system of the Trobriands, as revealed by Doctor Malinowski.[2] With each transfer of a "copper" there was a rise in value, deliberately made by the chief, striving to acquire it by the accumulated clan-wealth, and a corresponding enhancement of the prestige of the clan.

Within the clan, or group of clans, making up one of the rival parties, there was also a constant flux of gifts and counter-gifts, with a time interval. These gifts within the group were in turn increased two-fold, and, finally, gathered into the power of the chief, were used for a potlatch or the securing of a "copper"—called "doing a great thing"—and thus passed out of the clan in one magnificent gesture. With the eventual re-passage of the "copper" to the opposition, all this wealth and more returned into the possession of the chief, who distributed it among his group, according to the amount of their former contributions with due increase.

That the transfer of the "copper" was in no sense a sale, was evident at the very outset, when, arrangements for the exchange having long been made, the formal tentative offer for the "copper,"—called "the harpoon-line to which game is hanging"—which amounted to one-sixth its value, called in due time for a counter-gift of double value—that is, one-third—before the great drama of the transfer could be enacted.

The cycle of Kwakiutl life properly began with the marriage. Brides, like "coppers," came under the law of gifts. The suitor offered to the father of the girl gifts commensurate with the rank of the two families. The counter-gift came in the form of the bride, and, a little later, in blankets, boxes of eulachen oil, together with a clan name. He proceeded to give away the blankets and consume the oil at a feast, when he resumed his own name. These blankets would return to him in double measure when he needed them later on. The advent of a child brought more gifts from the father-in-law—much valuable property, a crest of the clan with its privileges and rights to certain dances. These he held in trust for his son or his daughter's son. When other children had been born, the son-in-law received yet greater gifts, but returned his wife to her father. She might choose to "stay in the house for nothing," but the prestige of her husband would impel him to renew the marriage by a new gift.

Even in this final gesture of the marriage—the so-called "return of the purchase price"—in which the father-in-law felt bound, if the husband so willed, to strip himself of house and carved house-posts, possessions, even ceremonial names and social position, there was a dramatic climax in which the clansmen of the son-in-law attacked the simulated "canoe," formed of ancient and valued carved chest-lids, drawn up on the beach around the old man's portable wealth, and, breaking into it, distributed the booty among themselves. It was clearly a remnant of the earlier state of hostility, replaced by the gift system. To this also, a young chief alluded in announcing his intention to marry—"to go forth to make war upon the daughters of all the chiefs of the world."

---

[2] The further comparison lies outside the limits of this paper and will be treated elsewhere.

The introduction of the child into this ceremonial complex began sometimes at birth with the distribution of gifts by his maternal grandfather, to the invited tribesmen, in honor of the heir and for his future benefit, as well as for the honor of the clan name. But the child of lower station had his feet placed upon the path of endless giving when, at about the age of one year, he received his first distinctive name, and a paddle or a mat was presented to each member of the clan. At the age of ten or twelve, he made his first gifts to members of the tribe—gifts, which he in turn owed to friends and would later return with increase. At the end of a year, all counter-gifts having been received, he celebrated his entry among the men by return gifts to those who had aided him. His father then retired to the class of old men and the youth took his seat and the ancestral name at a ceremony, accompanied by a fresh distribution of gifts—another round in the endless cycle.

There is not a phase of all this ceremonial giving which could not be translated into the commercial terms of Old World culture—buying and selling, payments to bind the bargain, borrowing and lending, with interest, deferred payments, partnership, investment, pyramiding of values. But, to the Indian, the whole complex bore a different aspect. The important point was not how much one could get, but how much one could give. There lay the foundation of prestige, accumulated wealth, dramatically displayed in bestowal. That it would in time return to the clan in greater measure was a matter of course, since the opposition likewise strove to raise their name, but this was a secondary consideration. With the Kwakiutl also, liberality was a form of honor.

Here, likewise, the ultimate source of power lay in character, courage, labor, skill and thrift. Social advancement was through ceremonial gift. Without direct taxation, property tended to concentrate intermittently in the possession of the chiefs, with alternation of diffused and concentrated wealth, while the interest of every clan member in the transaction made for clan solidarity.

Gift-giving, which in the Plains area, as with the Omaha, flowered into an honors system, characterized by deeds of benevolence aimed at internal and external peace, with the arrogant and contentious Northwest Coast tribes specialized into an honors system of bitter rivalry, where prestige, the elevation of the name, was the paramount aim. Even in this latter case, gift-giving made for peace, since it avowedly replaced the earlier intertribal warfare—the raids of these Vikings of the Northwest Coast, which carried off or destroyed women, "coppers," and other valuables, including honorific titles, were thus replaced by a code, which enhanced the dignity of chiefs and their supporting clans and tribes, through property, its display, and its bestowal or destruction. In their own words: "Men formerly fought with deeds, now they fight with property."

It is difficult to draw the line between gifts and payment for services. A distinction was evidently made by the Indian, though not always by the white observer. The medicineman expected and received a return for his services. The priest, in the Hidatsa eagle-hunting ceremony, said: "If you wish me to do this, you must pay me." The Tlingit, at the potlatch given by the heirs in honor of the dead, paid for the services rendered in handling the corpse by the opposite phratry.

The distinction seems to lie in the definiteness of the return. Services, like trade, called for an equivalent, whereas the gift, here, as elsewhere, reciprocal in character, called for a counter-gift of an indefinite value, with the onus on the recipient to give more than he received.

Indian gifts, it is maintained, are an integral part of primitive civil law. The underlying principle of the codes is one. Its diverse manifestations arise from the interplay of social and economic forces, led by that subtle something called character.

BIBLIOGRAPHY

BOAS, FRANZ. The Social Organization and the Secret Societies of the Kwakiutl Indians, *Report, United States National Museum for 1895*, Washington, 1897.

Ethnology of the Kwakiutl, *Thirty-fifth Annual Report, Bureau of American Ethnology*, Washington, 1921.

DORSEY, J. OWEN. Siouan Sociology, *Fifteenth Annual Report, Bureau of American Ethnology*, Washington, 1897.

FLETCHER, ALICE C. The Hako, a Pawnee Ceremony, *Twenty-second Annual Report, Bureau of American Ethnology*, Washington, 1903.

FLETCHER, ALICE C. AND LA FLESCHE, FRANCIS. The Omaha Tribe, *Twenty-seventh Annual Report, Bureau of American Ethnology*, Washington, 1910.

GILMORE, MELVIN R. Uses of Plants by the Indians of the Missouri River Region, *Thirty-third Annual Report, Bureau of American Ethnology*, Washington, 1919.

MALINOWSKI, BRONISLAW. Argonauts of the Western Pacific. London, 1922.

Primitive Law and Order, *Nature*, no. 117, 1926, Supplement.

SPIER, LESLIE. Havasupai Ethnography, *Anthropological Papers, American Museum of Natural History*, vol. 29, part 3, New York, 1928.

SWANTON, JOHN R. The Tlingit Indians, *Twenty-sixth Annual Report, Bureau of American Ethnology*, Washington, 1908.

THWAITES, REUBEN GOLD. Early Western Travels, 1748–1846. 1904–1906.

Original Journals of the Lewis and Clark Expedition, 1804–1806, New York, 1904–1905.

WILSON, GILBERT L. Hidatsa Eagle Trapping, *Anthropological Papers, American Museum of Natural History*, vol. 30, part 4, New York, 1928.

THE ACADEMY OF NATURAL SCIENCES,
PHILADELPHIA, PENNSYLVANIA.

ON THE ORIGIN OF ESKIMO CULTURE

By Kaj Birket-Smith

It is always dangerous to compress the results of an extensive work into a short lecture, because very often you cannot but state your conclusions without properly discussing them, neither can you give the authorities upon which your observations are based. Before entering further upon my topic, I should say, therefore, that the paper I am going to read is but a very short abstract of a work on the culture of the Caribou Eskimos, which is to be published this winter as Volume V of the *Reports of the Fifth Thule Expedition* under the leadership of Knud Rasmussen. In the second part of this work I have undertaken an analysis of the material culture of the tribe mentioned, following about one hundred and ten culture elements throughout the Eskimo area in order to lay down their distribution and afterwards, in the same manner, following more than seventy elements, which are also found outside the Eskimo region, through North America and northern Eurasia. The results I have, for the sake of convenience, put down in tables, which, although they are very deficient, of course, in several cases are suggestive as to the development of culture in the boreal regions of the world.

In the present paper it would be inconvenient, however, to follow the same method as in my larger work, and I may, perhaps, most properly start with a very short survey of the different hypotheses on the origin of Eskimo culture. First of all, I should emphasize that I am going to speak only of the culture and not of the physical type nor the language of the Eskimo. What, then, are we to understand by the term ''origin'' of the Eskimo culture? That is a question entirely different from the origin of the individual elements which combined constitute the culture as a whole. When properly limited, the question must be answered like this: the origin of a culture is *the development of its most fundamental and characteristic features,* which in this case would mean *the adaptation of Eskimo life to the ice of the Polar Sea.* The region where this took place is the home of Eskimo culture.

Rink was of the opinion that this development had taken place in Alaska, because the gradual transition between Indian and Eskimo culture gave him the impression that we might actually see a transformation from inland to coastal life; but Boas was soon able to show that many elements common to the Indians and the Alaskan Eskimo were due to the latter being strongly influenced by the Tlingit. In fact, very many elements, which among the Eskimo are not found outside the western regions, are no doubt adopted from the Northwest Coast, for instance, the elaborate wood carving and the grotesque masks, the potlatch institution, slavery, inclination towards totemism, raven legends, etc., etc. Some elements are evidently of Asiatic origin as the built-up sledge, the ice-scoop of net type, the breast yoke, etc. There are also some elements which were undoubtedly originally Asiatic, but which are now found on both sides of the northern Pacific so that one cannot tell where the Eskimo got them, *viz.,* pile-buildings, plate armor, the earth-lodge with a fireplace, the cone-shaped wooden hat, etc. We see that here, where two continents meet, Eskimo culture has undergone an important development, but we get no answer as to its origin.

One of the most remarkable features in Eskimo culture is the very pronounced dividing line which, on several fundamental points, sets the Aleutians and the Pacific Eskimo apart from all the rest of the stock. This difference may be observed in the cut of the fur jackets and the footwear, in the shape of the blubber lamp, in whaling with slate-pointed lances instead of harpoons, in burial customs, and so on. In some cases elements are found of which it cannot be told at present whether they are due to an original difference from the other Eskimo or to a particularly strong influence from the Northwest Coast and northeastern Asia. I am thinking of elements like stone pecking, houses with roof-entrances, traces of matriarchate, etc. We may compare this cultural peculiarity to similar peculiarities in language and physical type and it seems to me extremely probable that we are here dealing with an old, originally independent population that has been more or less Eskimoized. That would agree with the results of the Jesup North Pacific Expedition, according to which the Eskimo have penetrated along the coasts of Bering Straits from the north, cutting off an old connection between the continents, and probably also with the discovery of a characteristic old ''Bering Sea culture'' made by Jenness.

If this be true, we must look somewhere outside southern Alaska for the ancestral home of the Eskimo and we are here again indebted to the pioneer works of Boas, who, on the strength of Eskimo mythology, pointed towards the central regions west of Hudson Bay as the cradle of the whole stock. Steensby arrived at the same conclusion in his anthropogeographical study of the Eskimo culture, but at the same time he thought that a later and very thoroughgoing development had taken place at Bering Straits. Now, this hypothesis is of great importance, because we have here arrived at a stratification in Eskimo culture. Steensby speaks of the older layer originating in the central regions, as Palae-Eskimo, while the one developed at Bering Straits is called Neo-Eskimo. The first has a more continental stamp and is characterized by sealing on the winter ice, snowhouses, etc., while the main features of Neo-Eskimo culture are strictly maritime, *viz.,* whaling from an umiak, sealing with nets or from kayaks, etc. Now, however, the natural conditions in the central regions are not favorable to these Neo-Eskimo elements and that is the reason, according to Steensby, why the central culture has preserved a Palae-Eskimo character.

It is beyond doubt that Steensby's arguments regarding the latter important point are extremely weak and Hatt very soon pointed out that there are elements, like the gutskin shirt and urine tanning, which are lacking in the central area, but are found in the peripheral regions, and in these cases it could not be due to purely environmental conditions. He therefore thought that the central younger layer had penetrated like a wedge into the older, which was only able to hold its own in the peripheral regions. In fact, many more elements than those mentioned by Hatt are found in Alaska and Greenland, but not among the Central Eskimo tribes. I cannot, however, enter into details; I only wish to emphasize that a great many of these elements show a close affinity to northeastern Asia and the Northwest Coast of America, proving that this maritime layer of Eskimo culture really originated in the western regions.

Therefore, it will be seen that Steensby and Hatt agree when they establish a stratification in Eskimo culture, but they disagree when they come to dating the layers. Some new facts concerning this important point have come to light through the work of the Canadian Arctic Expedition and the Fifth Thule Expedition. Jenness believes that the Copper Eskimo did not arrive at the sea till quite recently and we got the same impression regarding the Netsilik and Iglulik tribes. On the Barren Grounds west of Hudson Bay, two thirds of the Caribou Eskimo stay inland all year round and do not visit the sea at all. We have in the excavations performed by Mathiassen an absolutely decisive proof that a late migration has taken place in the central area from the interior towards the coast. Contrary to the present inhabitants the early population lived in earthen winter houses; they were whalers on a large scale, knew the umiak, and made seal nets out of baleen. Their culture, which was called the Thule culture, corresponds very closely to the Neo-Eskimo layer of Steensby, resembling at the same time the culture in the marginal regions.

You see, then, that to a superficial view you could get no better support for the hypothesis of Hatt. There has actually been a rather recent push of tribes from the inland and before that there was a continuous chain of true maritime hunters from the Bering Sea to Greenland. The question is, however, whether this maritime stage really is the oldest form of Eskimo culture, or, in other words, whether a still deeper layer may not be found.

I believe there is a deeper layer. When the modern culture of the central tribes is compared with the Thule stage, we arrive at the remarkable fact that in very many cases the primitive types are present in the modern culture and the more developed ones in the old Thule culture. Therefore the recent central culture cannot be rooted in the Thule stage, but both of them must have sprung from a common stock. The point is now, whether that original stock belonged to the western or to the central regions. Until we know what the oldest Thule culture in Alaska was like, we cannot say anything positively; but, nevertheless, it is a remarkable fact that in the earliest known strata of Thule culture there are already three known elements which I have reason to believe are of central origin, *viz.*, the broad lamp, the snowhouse, and hunting seals at the breathing holes. This probably goes to show that the Thule culture had, at the very beginning, been in contact with a cultural drift from the central regions, the same probably, which brought the Eskimo language and the Eskimo physical type to Alaska. According to this view, which, however, may be somewhat altered by future archaeological investigations in the west, the theory of Boas and Steensby regarding the origin of Eskimo culture in the central regions is correct.

It may be asked, however, how it came about that the recent culture in the central parts has such an old-fashioned aspect. Now, it will be remembered that on the Barren Grounds west of Hudson Bay lives the small tribe of Caribou Eskimo who, for the greater part, never visit the sea. An analysis of their culture has shown that it is extremely primitive; in fact, 80 per cent of the elements of their culture is found among all Eskimo and must be considered very ancient. This, compared with the hypothesis that the earliest migrations started from the central area, leads me to believe that the Caribou Eskimo are the remainder of what might be called the Proto-Eskimo population, a relict from the time before the adaptation to coastal life. Therefore, a push from the inland must necessarily bring a primitive stamp to the modern culture, but the interpretation of the facts is so difficult because in this way a sort of inversion of the strata has taken place.

Perhaps, therefore, I had better summarize what I have said:—

1. Originally, the Proto-Eskimo are supposed to have lived inland, hunting caribou in summer and fishing from the ice of lakes and rivers in winter; this stage has been preserved, with rather insignificant alterations, among the Caribou Eskimo, but has otherwise disappeared.

2. The Palae-Eskimo stage was arrived at by developing ice-sealing from ice-fishing, probably somewhere between Coronation Gulf and Boothia. Sealing opened up entirely new hunting grounds to the Eskimo who followed the coast westward to Alaska.

3. At Bering Straits or south of it they probably found another people, whose descendants, more or less Eskimoized, we meet in the Aleutians and Pacific Eskimo. At the same time an important cultural development took place, creating the so-called Neo-Eskimo culture. The latter was far superior to the Palae-Eskimo stage and was certainly also favored by a depression of the coast, which gave the sea mammals better conditions; therefore, the Neo-Eskimo culture might spread eastward right to Greenland.

4. Finally, however, a new migration from the interior to the coast set in in the central regions, thus forming the uppermost stratum of Eskimo culture, that might, perhaps, be called Eschato-Eskimo. This migration, which is continued to our own day, is probably connected with a recent uplift of the land around the northwest passage which has been very detrimental to the great sea mammals like the whale and walrus. As this migration came from inland, it more or less obliterated the Neo-Eskimo culture here, renewing instead the primitive stamp of former days.

If we are really correct in the supposition that the Caribou Eskimo are the descendants of the Proto-Eskimo, they are certainly of paramount importance to North American ethnology; but in order to realize its full meaning, we must compare them with other tribes of North America and northern Asia. A glance at sub-Arctic Canada will show that the summer life of the Indians is closely similar to that of the Eskimo; but in winter it is different, the Indians hunting moose and caribou on snowshoes. In fact, their existence in winter is entirely dependent on the snowshoe, as is also that of the reindeer nomads in Siberia. We are indebted to Hatt for realizing what an important factor the snowshoe has been in boreal life. Prior to the invention of the snowshoe, it had been necessary to spend the winters near the lakes and rivers, where it was possible to spear fish from the ice, with the head covered as among the Eskimo, exactly as at the outskirts of the snowshoe area among the Ojibway and Menomini. In

Siberia similar methods are found among the Ainu, Tungus, and Samoyed. There is no doubt that this method is very old and was formerly widespread.

So also with the boat. The characteristic boat of the snowshoe culture is the birchbark canoe, while a primitive skin boat, the prototype of the kayak and umiak, seems to belong to the ice-fishing stage. Skin boats are found among quite a number of northern Indian tribes, even apart from those cases where Eskimo influence is probable, *viz.,* from the Kaska, Chipewyan, Plains-Cree, Montagnais, Algonkin, Micmac, Penobscot, and Wabanaki. Then, of course, there is also the bull-boat on the Missouri. In Asia, according to a Chinese source of the seventh century, the southern Tungus are said to have used a skin boat.

In the cut of dress also may be distinguished an upper stratum belonging to the snowshoe stage and an older one which is preserved among the Eskimo and certain Indian and west Siberian tribes; but as this subject has been thoroughly dealt with by Hatt, it is not necessary to enter into details here.

The Proto-Eskimo dwelling was probably a dome-shaped hut such as may still be found among the Mackenzie and Colville River Eskimo. Similar dome-shaped huts occur among the Kutchin, Loucheux, Hare, Montagnais, and Ojibway. In northern Asia exactly the same dwelling is found among the Gold and probably also the Ainu of Yezo.

It is obvious that in some cases we have had to go to the outskirts of the sub-Arctic area to find similarities between Eskimo and Indian culture, and that is no wonder when it is remembered that the ice-hunting stage is supposed to be more or less buried beneath later strata. That is also the reason why elements in accordance with the Proto-Eskimo culture are found outside the sub-Arctic area. I have, in a former paper on the early history of the Algonkin, tried to show that we have traces of the ice-fishing complex, although, of course, not ice-fishing itself, among the Algonkin south of the Great Lakes, and later Fritz Krause has proved it to be at the base of California culture, at any rate, in the northern and central parts. The same is also true of the plateaus of British Columbia. In these regions many of the characteristic elements of the ice-fishing complex crop up: the dome-shaped hut, hunting in disguise, and among the Yokuts even fish-spearing with head covered, though not through the ice of course. Stone pots are known from California and the Shoshoni, as well as in the east from the New England states southward to Maryland and Virginia. A knife, exactly like the Eskimo ulu, is known on the North Pacific Coast and the interior plateaus, as well as in the east as far south as Georgia. The laced sandal likewise has a western and an eastern distribution area.

Many elements, however, are particularly characteristic of more or less western regions, *e.g.,* the coat derived from the poncho, the compound bow, the Mediterranean arrow-release, the arrow-straightener, the bird spear and throwing board, the lamp, the exposure of the corpse instead of regular burial, etc. This might indicate that the Proto-Eskimo, prior to their migration to the coast, were influenced from the west and, therefore, that their ancestral home was somewhere in the region of Lake Athabaska and Great Slave Lake, possibly near the early Tsimshian, Salish, and Algonkin.

Now, turning to the Old World, the conditions are probably similar to those of North America: the ancient ice-fishing culture has to a very great extent been obliterated in the forests of Siberia and northern Europe, where hunting on snowshoes and reindeer nomadism have developed. Coming to the outskirts of the sub-Arctic we meet with another great difficulty, because here we get very close to the centers of Old World civilization: China, western Asia, and Europe. Nevertheless, we may find some important parallelisms. Sandal-boots are worn by the Tibetans, Kirghiz, and Vakhan. The dome-shaped hut is known not only from the Gold and Ainu, but also from the Baraba Tatars, from certain places in China, and from prehistoric Europe. Skin boats were mentioned from the Mongol in the Middle Ages and are still used by the Tibetans. Recent excavations have brought to light stone knives like the ulu from Mongolia, Manchuria, Japan, and northern China—and so on.

Even in out-of-the-way places of Europe may be found cultural features that cannot be omitted from consideration in this context, but it would take me too far afield to enter into details. In conclusion I only wish to say that the old hypothesis of Boyd Dawkins, who tried to establish a connection between the Magdalenian hunters and the Eskimo, may perhaps now be seen in a new light, when we no longer look upon the ancestors of the Eskimo as a maritime people, but as true inland hunters with a culture, the main features of which they shared with all other circumpolar tribes. I do not mean to say that we should immediately accept Boyd Dawkins' hypothesis, but that it is open to renewed investigation.

Copenhagen, Denmark.

DISCUSSION

By W. Thalbitzer

In the lectures we have just heard there were, I think, many interesting details of physical anthropology and ethnography, all tending to indicate how the western and central groups of Eskimo originated in the regions where we meet them now.

The proofs of the genetic and cultural relationship which unites the various groups are mainly sought in the apparent conformity or dissimilarity of certain selected features of the kinds just mentioned. The same way of arguing is used for the determination of the original migratory movements of the groups. I have some doubt of the force of such arguments as long as the details of the comparison (viz. the features compared) are of such a general character as those just mentioned, namely, merely confined to typical generalities of similarity or dissimilarity. The reasoning ought rather to be based on really exceptional and characteristic criteria analogous, for instance, to the characteristic details of a handwriting or style.

I want to emphasize that we should not content ourselves with typological comparisons; it would be much better to pay special attention to such individual or familiar features as would give us more cogent proofs.

In its origin, a nation or a tribe is woven of many dissimilar threads. Consequently, the term ''relationship'' is in itself ambiguous and would seem to need a closer definition in each case. In the first place we ought to ask: What sort of relationship is meant? Are we speaking of physical anthropology or culture, social organization, ethnography, customs, language, music, etc.? Secondly, we should examine the degree of the force (potency) of the proofs in hand. We should, perhaps, especially look for the stylistic complexes of these proofs, the ''patterns'' formed by the features selected as proofs.

The problem of the probable mixture of foreign elements in the Eskimo-speaking tribes of Southern Alaska cannot possibly be solved by the simple principle of making typological comparisons, but would seem to demand proofs of a more decided character.

Copenhagen, Denmark.

ALEUT HUNTING HEADGEAR AND ITS ORNAMENTATION

By S. V. Ivanov

I. Types of Headgear

AMONG American aborigines the Aleut have been the least studied from an ethnographical point of view, for, during the time the Aleut still preserved their typical culture, only one ethnographer, Veniaminov, visited them. When, more than half a century later, such specialized research men as Jochelson appeared on the Aleutian Islands, hardly any of the original Aleut culture was extant. Thus, at present, to study any problems of Aleut ethnography we must use the work of E. Veniaminov,[1] as a basis to which may be added a series of fragmentary, accidental and, in most cases, superficial remarks of various travelers at the end of the eighteenth and the first half of the nineteenth centuries. In this connection it should be noted that the most important material still unanalysed is represented by the valuable collections of Aleutian objects collected during the first half of the nineteenth century and kept in our museums.

Because of this scarcity of ethnographic material on the Aleut, my observations and conclusions, based on the study of the headgear of the Aleut and their neighbors, the Eskimo and the Indians of the Northwest Coast of America, will be of interest. In this study of headgear, its form as well as its decoration and painting have interested me. The results of this analysis are presented in this paper.[2]

---

[1] Veniaminov, I., *The Unalaskan Islands*, Parts I, II, III, St. Petersburg, 1840. (In Russian.)

[2] The following material was utilized for this work:—

1. The rich collection of ancient Aleutian headgear in the Museum of Anthropology and Ethnography (henceforth referred to as M. A. E.) of the Academy of Sciences of U. S. S. R., dating back to the beginning of the nineteenth century (Lisyansky Collection) and from the middle of the nineteenth century (Vosnesensky Collection). This headgear consists of eighteen examples representing the oldest, and, in number, the most unique collection in existence.
2. A small collection of Aleutian headgear of the Ethnographic Department of the State Russian Museum, which was derived from the Zarskoselsk Arsenal and which dates from the first half of the nineteenth century.
3. A small collection obtained from Rumyanzev, which is in the Central Museum of Ethnography in Moscow and which covers a period of time previous to the year 1867.
4. A small collection of Bering Sea Eskimo headgear, at M. A. E., which was obtained by I. Vosnesensky and T. Sagoskin in the first half of the nineteenth century and supplemented with illustrative material on the headgear of Bering Sea Eskimo, published in Nelson's work (see below).
5. A small collection of southern Eskimo (Konjag) headgear, collected in the first half of the nineteenth century by Lisyansky, T. Sagoskin, and I. Vosnesensky, at M. A. E. A drawing of a Konjag hat, published by Hoffman (see below) and belonging to Mr. W. I. Fisher was added. With these also must be considered the

Even at first glance Aleutian hats are conspicuous because of their queer and unusual form. The Aleutian hat[3] which, according to Bancroft, represents the most noteworthy part of Aleutian male dress,[3a] is cone-shaped (Pl. II, Fig. 1). They are generally not more than 25 cm. in height; one side protrudes far to the front and is slightly squashed on the sides and on top. This is well demonstrated by Pl. II, Fig. 4. The distance from the top of the cone to the edge of the protruding part varies between 39 and 53 cm. This part which extends forward, projects over the face. The top itself on all examples seen by us, is straight, therefore does not form a straight line with the projecting portion (Pl. II, Fig. 1), and seems to constitute a separate part like the crown of a hat. On the inner surface of the sides of the hat, are fastened straps which are tied under the chin, to hold the hat on the head. Such hats were made from a single piece of wood[4] the edges of which joined over the occiput and were sewn together with sinew. The seam itself was never allowed to remain exposed, but over it was placed a bone plate which culminated in a cap that was placed on the tip of the hat. This plate was also fastened to the hat with sinew.[5]

The most characteristic feature of the Aleut hats is their rich ornamentation in very definite sections, which, as will be seen later, is of great importance to our problem. It seems that these decorations have had a prolonged evolution which is expressed in a change of material as well as in alteration of form. These consist of the following. The plate ends in a carved bone figure, a bird, human figure, etc.; in addition, it is covered with engraved geometric motives: circles, dots, short lines, parallel lines, and similar elements. In most cases the slightly grooved lines are stained with black, blue, green, or red. On the rear plate are attached sea lion whiskers on which are fastened large and small blue and red glass beads, which, according to Sarychev, the Aleut received from the Russians.[5a] Often, instead of beads, small tufts of feathers are tied to the whisk-

---

wooden hats on figures sitting in boat models made by the Kadiak themselves with greatest accuracy; these models are also a part of the M. A. E. collection dating from the first half of the nineteenth century.

6. Illustrative material on Aleutian headgear, incorporated in works of various authors who will be mentioned. Finally, masks of the Indians of the Northwest Coast of America were used for comparison, especially the old known collections at M. A. E. of the Academy of Sciences of U. S. S. R.

I should like to express my gratitude to C. A. Ratner-Sternberg, curator of the North American Section of M. A. E. of the Academy of Sciences in U. S. S. R. for her coöperation and valuable information.

[3] In the second volume of V. J. Lisyansky's work, *Around the World in 1803–1806*, St. Petersburg, 1812 (in Russian), is a term for hat in the Unalaskan idiom of the Aleutian language: *Chagoodak*. Unfortunately, the type of hat is not indicated.

[3a] Bancroft, *The Native Races of the Pacific States of North America*. London, 1875, p. 89.

[4] In the work quoted above, on p. 89, Bancroft writes that they have hat crowns of wood or skin. In our museums there are no wooden hats with skin crowns. But the reference is interesting, since it supports the assumption that this portion of the hat has an independent individual significance. A discussion of this topic will follow.

[5] It is interesting to note that the Ainu, Gilyak, and Olchi use the same method to close the seams in wooden receptacles. The only difference lies in the fact that the plate itself is also made of wood and is fastened with wooden pegs.

[5a] *Travels of Captain Sarychev's Fleet.* St. Petersburg, 1802, Vol. II, p. 37. (In Russian.)

ers which were fastened horizontally into holes in the bone plate and pointed backward. (Pl. II, Fig. 1.) At the time of Georgi, the hat rims[6] were also decorated with feathers, but in the specimens in our museums, the feathers are not only absent but there are no traces of possible attachments to the rims. Another type of decoration is found in the bone plates attached vertically to both sides of the hat over the temples (Pl. II, Fig. 4). They are fastened in such a way that the surface of the bone plate is always perpendicular to the surface of the hat; the plates extend sidewise reminding one of ears (see the detail of the hat photographed from the front, Pl. IX, Fig. 1). In form they represent elongated triangles with the sharp point directed downward. A more detailed description will be given later. These side plates are also decorated with engraved ornaments and have figures of birds in bone, and even whole scenes on top. The side plates as well as those at the back are decorated with long sea lion whiskers which penetrate them and are directed backward, also with tufts of feathers which are fastened to the whiskers, and with beads. The third decorative element of hats is represented by a series of sea lion whiskers which are placed vertically on the middle elongated position of the hat and which are provided with beads of a considerable size reaching almost 2½ cm. in diameter (Pl. II, Fig. 1). If the whiskers are absent, the middle position of the hat is marked in some other way; sometimes by means of a thin string extending from the top to the front rim of the hat, in other instances by one or two rows of beads;[7] or, finally by a series of figures made of bone birds, similar to the bone heads of animals and birds, with which the Bering Sea Eskimo decorate the median line of their hats (Pl. II, Fig. 2). The fourth and last decorative element is the painting, which covers the whole outer surface. This painting is interesting from many points of view and we shall discuss it later in detail.

The Aleut, in contradistinction to the Eskimo, have a marked aptitude for painting. Formerly other objects besides hats were painted. Thus Veniaminov's work contains the valuable note that the tombs in which distinguished persons and those of high rank were buried, such as the chieftains (the *Toen*), were also painted with various colors on the outer surface.[8]

Eighteenth century travelers report that the masks used by the Aleut during festivals, were also painted in many colors.[9] The Aleut love for color is evidenced by the fact that the lack of paint caused encounters and internal wars.[10] In general, the Aleut regarded paint as very valuable.[11] It was even used for sacrifice to idols.[12] Probably this practice was due not only to its material value, but to the symbolic significance ascribed to the colors. Veniaminov has given us information which elucidates the use of paint. During the sacrifice to the invisible spirits of the heaven, the earth, and the underworld, while praying for success in war or hunting, the feathers of the screech owl and the sea raven were scattered in all directions; and prior to this procedure each feather was moistened with some stain, most frequently with green or red.[13] Thus, colors were closely connected with the religious concepts of the Aleut. Naturally, this does not exclude their esthetic significance. While discussing the taste of the Aleut, the author wishes to emphasize the fact that they prefer bright colors, especially red.[14] As to the composition of the colors a number of authors state that they were of mineral origin, derived partly from the Aleutian Islands and partly from Alaska.[15] We know nothing concerning the technique of the painting. Thanks to the excavations conducted on the Aleutian Islands in 1908–1911 by the Ethnological Section of the Kamchatka Expedition, under the leadership of W. Jochelson,[16] it is known that for grinding colors the Aleut used stone grinders. Some of these grinders with a stone, used for ocher, are preserved in the Central Museum for Ethnology in Moscow.[17] On many hats the background is covered at first with liquid white paint, over which there was superimposed real painting in regular dense opaque layers, similar to the Tempera technique. The colors of the paint were variegated; Venianimov mentions clay, white, red, yellow (ocher), green, black, and blue.[18] According to Lisyansky, the colors most frequently used were black, dark red, and green-blue.[19] Indeed these colors are most often seen on the wooden headgear. Later, we will return to this topic. In our collections are found examples which astound because of their exotic assortment of colors. For instance, on the hat illustrated in Pl. IX, Fig. 5, which shows the whole design unfolded, one may see, aside from the three colors mentioned, many narrow interchanging stripes of yellow, orange, pink, and even delicate lilac shades.[20]

---

[6] Georgi, *Description of All Peoples living in Russia. . . .* St. Petersburg, 1799, Part III, p. 90. (In Russian.)

[7] See the drawing of an Aleutian hat in Fr. Helwald's work: *Natural History of Tribes and Peoples.* Russian translation, St. Petersburg, 1885; also see hat N-2868-40 in the collection of M. A. E. of the Academy of Sciences.

[8] Veniaminov, *op. cit.*, vol. II, p. 81. Unfortunately this is all we know about these interesting paintings which could have served to clarify the problem of the sources of Aleutian artistic painting; especially since the carving and painting on graves of the Tlingit, their neighbors, have been preserved and were studied (see Niblack, A. P., The Coast Indians of Southern Alaska and Northern British Columbia, *Annual Report, Smithsonian Institution,* Washington, 1888, p. 355 and Plate LXV, Fig. 348).

[9] *The First Journey of the Russian Merchant, Gregory Shelehov,* 1783–1787. St. Petersburg, 1793, p. 170. (In Russian.) The two masks in the M. A. E. which were found in a cave of Atka Island and brought over by L. Schrenk in 1857, retained traces of painting. The red color on the lips and lids of the mask is especially well preserved. The other colors are not clear.

In connection with the painting of the hats, it is important to note that the same conformity in the location of the elements of design can be observed as in the case of the bone plates, etc., previously discussed. For instance, above the temples one can always find a large medallion-like design with a rosette in the center, or one in the form of a large spiral, an oval, etc. (See Pl. II, Figs. 1

---

[10] Veniaminov, *op. cit.*, Part II, p. 94.

[11] *Ibid.*, pp. 239–240.

[12] Veniaminov, *Notes on the Athin Aleut and the Kolosh.* St. Petersburg, 1840, p. 3. (In Russian.)

[13] Veniaminov, *Notes on the Islands . . .* , Part II, pp. 122–123.

[14] *Ibid.*, Part II, p. 253.

[15] *Ibid.*, Part I, p. 45; Georgi, *op. cit.*, Part III, p. 90 and others.

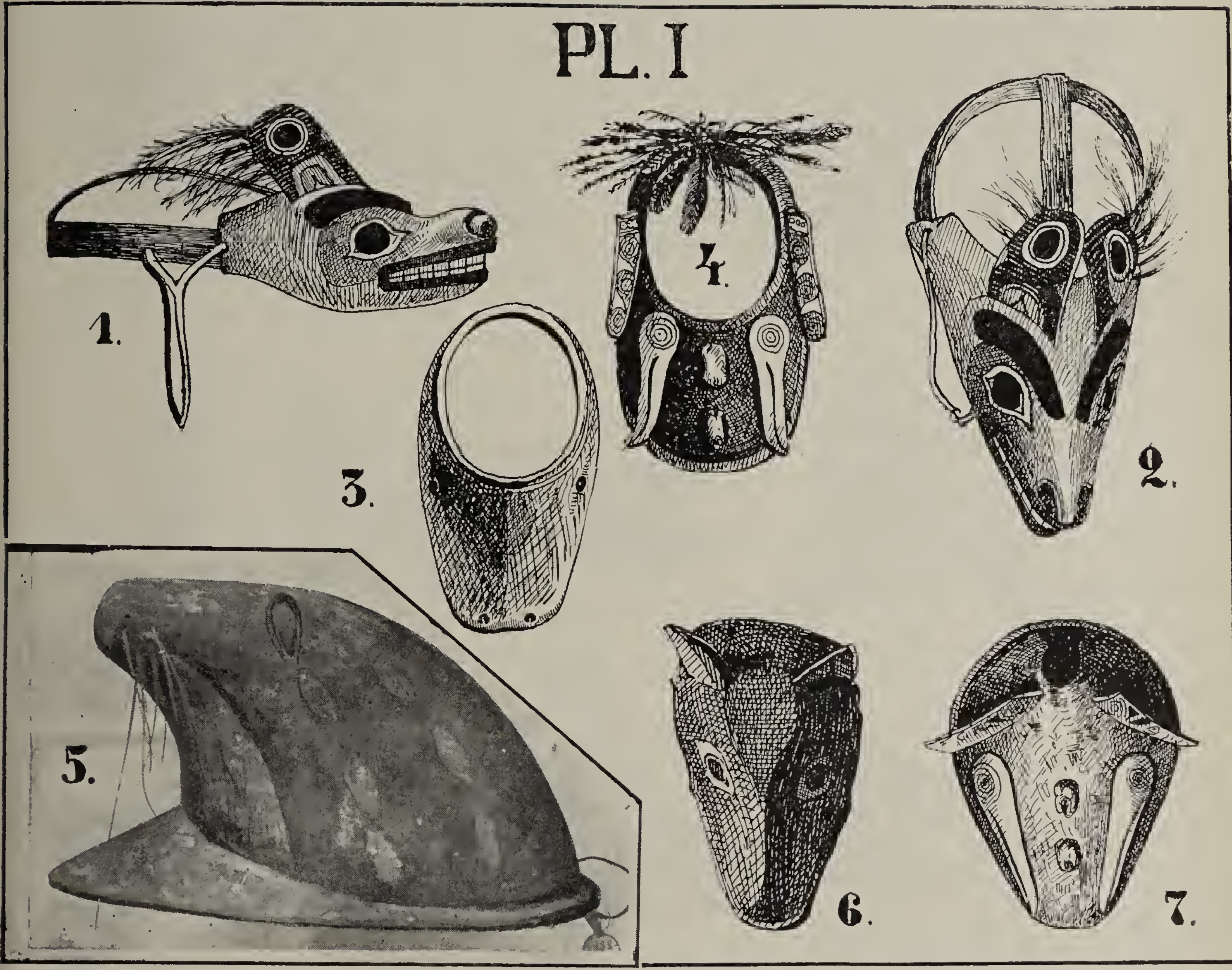
[16] Organized by R. Geographical Society under the auspices of F. P. Riabushinsky.

[17] See *Moscow Excursions, its Artistic and Scientific Organizations,* edited by Heinaeke, Elagin, Jefimova, and Tietz. Moscow, 1917. (In Russian.)

[18] Veniaminov, *op. cit.*, Part I, p. 45.

[19] Lisyansky, Y., *op. cit.*, Part II, p. 149.

[20] In primitive art, such colors as lilac or violet occur very seldom.



FIGS 1–2. WOODEN MASK, TLINGIT. MUSEUM OF ANTHROPOLOGY AND ETHNOGRAPHY OF THE ACADEMY OF SCIENCES, U. S. S. R. IN LENINGRAD (REFERRED TO BELOW AS M. A. E.) NO. 2448–2.

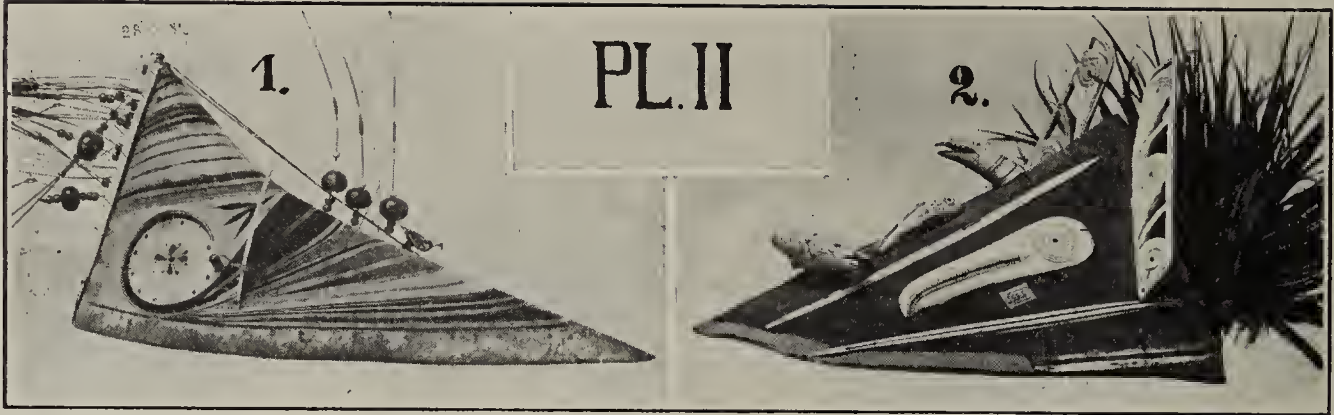
FIG. 3. WOODEN ZOOMORPHIC VISOR, BERING SEA ESKIMO. AFTER NELSON.

FIG. 4. WOODEN VISOR, BERING SEA ESKIMO. AFTER NELSON.

FIG. 5. WOODEN HAT IN THE SHAPE OF A SEAL HEAD, ESKIMO, KADIAK. M. A. E. NO. 2888–9. LENGTH, 29 CM.

FIG. 6. WOODEN HELMET, HAIDA. AFTER NIBLACK.

FIG. 7. WOODEN HAT, BERING SEA ESKIMO. AFTER NELSON.



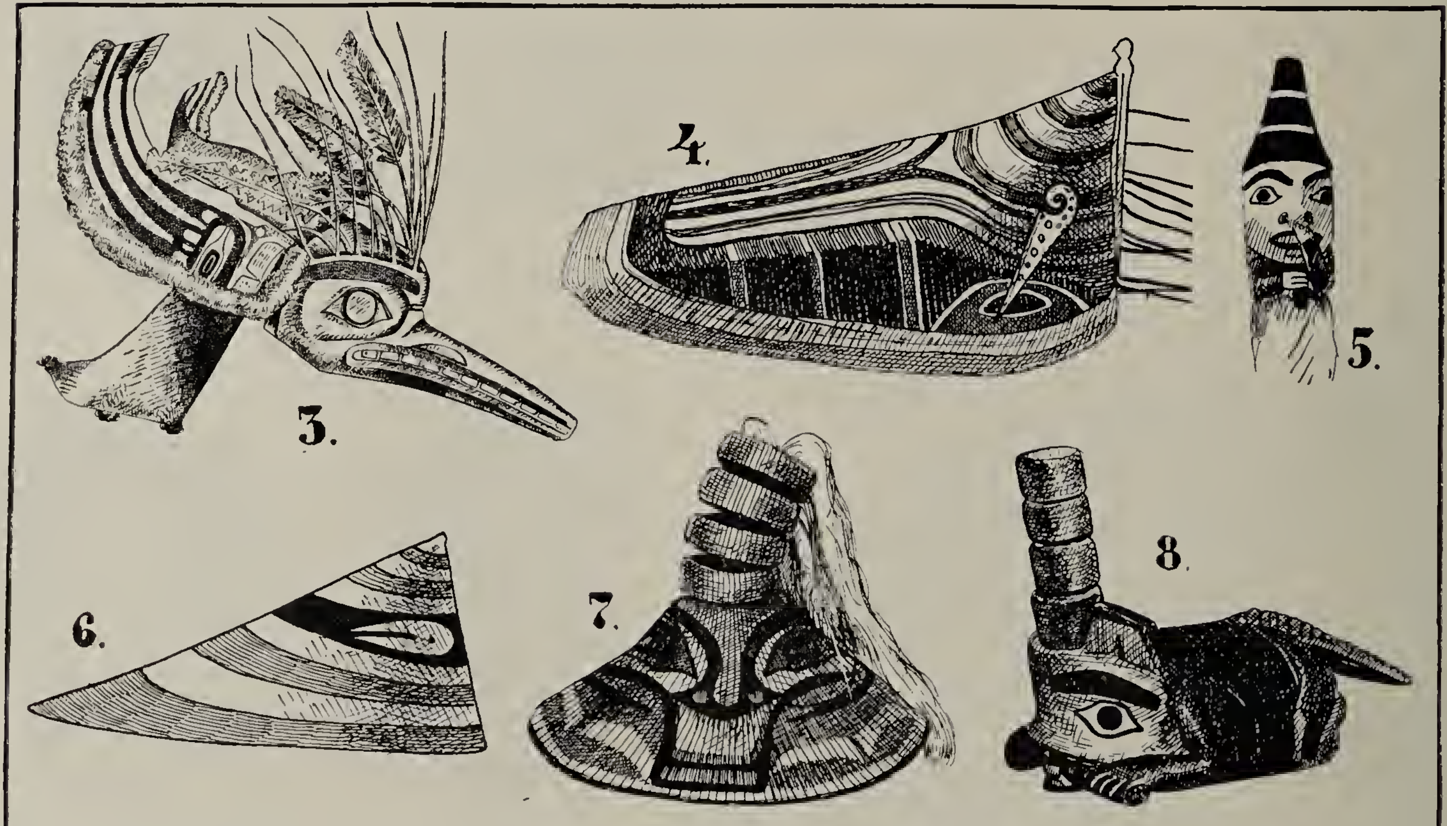


FIG. 1. WOODEN HUNTING HAT, ALEUT. M. A. E. NO. 2868–82.
FIG. 2. WOODEN HAT, BERING SEA ESKIMO. M. A. E. NO. 593–51.
FIG. 3. WOODEN HEADGEAR, TLINGIT. AFTER RATNER-STERNBERG.
FIG. 4. WOODEN HUNTING HAT, ALEUT. AFTER VOLKOV AND RUDYENKO.
FIG. 5. PART OF A CARVED WOODEN COLUMN, HAIDA. AFTER ADAM.
FIG. 6. PAINTED WOODEN HAT ON THE FIGURE OF AN ALEUTIAN HUNTER ON THE MODEL OF A CANOE, ALEUT. ETHNOGRAPHICAL SECTION OF THE RUSSIAN STATE MUSEUM, LENINGRAD, NO. 1266–40.
FIG. 7. DANCE HAT, HAIDA. AFTER ADAM.
FIG. 8. DANCE HAT IN THE SHAPE OF A BEAVER, HAIDA. AFTER ADAM.

and 4 and also the unfolded painting of the hat in Pl. IX, Figs. 4 and 5.) On the brim a comparatively wide stripe, generally double, is left, a darker stripe being drawn between the ribbons forming the two stripes, or, just the opposite, a stripe which is lighter. On this narrow stripe are a row of rhythmically alternating dots, circles, dashes, etc. (Pl. IX, Figs. 4, 5, and Pl. II, Figs. 1 and 4). Finally, the center of the elongated portion is also painted, in addition to the sea lion whiskers mentioned before. Thus we see a narrow stripe as demonstrated in Pl. IX, Fig. 2; or a series of parallel stripes (See Pl. II, Fig. 4); or a concentration at this point of a series of spiral heads and triangles (See Pl. IX, Fig. 5); or this entire section is separated though still with a central division which is well illustrated in Pl. IX, Fig. 4. We must pay special attention to this regularity since it is not accidental.

The headgear described here was formerly very rare[21] since it was costly and its construction with stone implements took much time. For one hat one paid one to three *kalg* (slaves).[22] This was a very high price considering that for one *kalg* one could buy a whole boat (*baidara*)[23] and that among the Aleut the number of *kalgs* was limited, and varied, even among the rich, from five to twenty.[24] Thanks to the high price the hats were counted among the valuable objects of the Aleut.[25] This is confirmed by the condition of the specimens in our museum. Many have cracks which have been painstakingly sewn together with sinew by the Aleut.

These hats were worn by men only, particularly by the *Toens* and the honored.[26] All others wore wooden visors, really the same type of headgear only with the tip cut off. These caps were also decorated with sea lion whiskers and with carved bone figures which were placed partly over the temples and partly over their central portion. A good example of such a visor is in the Central Museum of Ethnography in Moscow and in its form reminds us of those of the Eskimo. (See Pl. I, Fig. 4.) The high hats as well as the visors were worn exclusively during the hunting of sea game. This fact is of special interest to us.

The great skill shown in the working of the bone as well as the craftsmanship in painting seem to point to the concentration of the production of hats in definite centers in the hands of masters specialized in this work. That these existed among the Aleut is proved by the fact that the *baidaras,* for example, were produced by a special craftsman.[27] In general, on the Asiatic as well as the American shores of the northern part of the Pacific Ocean it is chiefly the man who occupies himself with carving wood and bone. Jochelson reports that among the Koryak only men carve walrus tusks.[28] Helwald states that the commonest and best loved occupation of the male Aleut was the carving of wood and walrus tusks.[29] However, among the Aleut, women have also done carving in bone. According to Bancroft they carved human figures, birds and sea animals from the bones of seagull wings.[30] Consequently the question remains as to who carved the bone plates and figures of birds and animals for the Aleut hats. Among the Bering Sea Eskimo the men (shamans)[31] make the wooden masks. Among the Indians of the Northwest Coast of America, Boas distinguishes two artistic styles, the male, which is expressed in wood carving and painting, and the female, in weaving, basketry and embroidery.[32] It is interesting to note that even in those instances where the women weave the patterns, for example, on the blankets of the Chilkat, the men invent the design. The latter carry out the design in color on special pattern boards. These are then copied by the women.[33]

---

[21] Veniaminov, *op. cit.,* Part II, p. 218.

[22] *Ibid.,* Part II, p. 218.

[23] *Ibid.,* Part II, p. 165.

[24] *Ibid.,* Part II, p. 239.

[25] *Ibid.,* Part II, p. 239.

[26] *Ibid.,* Part II, p. 218.

[27] *Ibid.,* Part II, p. 252.

[28] Jochelson, W., The Koryak, *Memoirs of the American Museum of Natural History,* Vol. VI, Part II, p. 649.

Concerning the painting of Aleut headgear, we must assume, in spite of lack of evidence as to its origin, that it was the work of men, since in the records of travelers describing the occupations of Aleut women no mention is made of painting. At the same time, Veniaminov tells us that the Aleutian and Eskimo masks were constructed and painted by shamans.[34]

We have dwelt at length on the description and explanation of all the outward details and the construction of the hats since it is of particular interest to us. The fact is that the decoration of the hats remains unexplained and each detail may be used as a useful argument in favor of one theory or another. We shall base all our conclusions as to the origin of the headgear on the analysis of such details.

Why are the hats decorated so ornately? Veniaminov says that the Aleut decorate the *Baidara,* the *Kamlika* (dress) and, consequently, the hats, because they consider the sea-otter (this animal being their chief game) to be a transformed human who supposedly likes feminine (?) handicraft and therefore will, himself, come to the decorated hunter.[35] It may be that some truth lies in this statement, but this does not explain the peculiarities of form in decoration nor that they are fastened to or painted on definite sections of the hats and not at random. Besides, the Aleut wore these hats not only for hunting sea-otter but also for sea animals—including the whale. For example, what is the origin of the elongated front portion of the hat? Veniaminov[36] and others following him state that this form originated as a protective measure to shield the eyes from the sea spray and the glare of the sun on the water. Goggles would, however, have served that purpose. As is known, these are used by the Central and Northwestern Eskimo and other peoples of the far north. Even if the wooden projection did shield the eyes it was in other respects uncomfortable and harmful. Even Veniaminov says that during strong winds the hat may cause fatalities to the Aleut since in catching under the hat it may upset the whole *Baidara.* Therefore, under such conditions the Aleut remove their hats. It is hardly feasible to assume that these uncomfortable, huge, and dangerous hats were of utilitarian value for the practical sea hunter. The late Professor L. J. Sternberg, who though of the same opinion as Veniaminov, believed, however, that these hats had an additional, *i.e.,* a religious purpose,[37] which was overlooked by Veniaminov and other visitors to the Aleutian Islands. After several years of study I arrived at the same conclusion and shall enumerate the facts which justify this opinion. I shall also review the types of headgear of the North and Southwestern Eskimo which is similar to that of the Aleut, and forms with it a group which may be considered a transition to the ritual masks of the Aleut, Eskimo, and the Indians of the Northwest Coast of America.

---

[29] Helwald, *op. cit.,* Vol. I.

[30] Bancroft, *op. cit.,* p. 91.

[31] Nelson, Edward W., *The Eskimo about Bering Strait.* Washington, 1900, p. 394.

[32] Boas, Franz, *Primitive Art.* Oslo, 1927, p. 183.

[33] Boas, Franz, Notes on the Blanket Designs, a work accompanying The Chilkat Blanket, by G. T. Emmons, *Memoirs of the American Museum of Natural History,* Vol. III, part III, 1907, p. 351.

[34] Veniaminov, *On Athin Aleut and Kolosh,* p. 6. (In Russian.)

[35] Veniaminov, Part II, p. 134. Feminine handicraft refers specifically to the decoration of the boats which was the work of women. The men constructed them, but had no part in their decoration. To the Aleut the boat appeared as an animate male who was not only the hunting mate of its master, but pretended to share in his matrimonial life also (Jochelson, W., *Materials for the Study of the Aleutian Language and Folklore,* Vol. I, Petrograd, 1923, p. 20). Therefore, it is clear that the boat will be pleased with the attention of the women who did their best to embellish it and all the paraphernalia connected with sea hunting; otherwise the boat would take vengeance on the hunter and destroy him.

For use in hunting sea animals among the Northwestern Eskimo there are, as among the Aleut, two types of wooden headgear: the cone-shaped hat and the cap with the open top. (See sample M. A. E. Pl. II, Fig. 2 and Fig. 4, after Nelson.) According to Nelson the area of cone-shaped hats stretches from the Kuskokwim River on the south to the Yukon on the north.[38] An interesting detail concerning these hats may be found in Sagoskin who says that the aged hunt sea game wearing these wooden hats and that their shape is similar to those used on Kadiak Island.[39] Hoffman, however, in describing the wooden hat of the hunters of Katmai (a settlement of the Konjag in Alaska opposite Kadiak Island), insists that this hat is a variation of the headgear encountered on Kadiak Island and the Aleutian Islands.[40] The boundaries of the area in which wooden cone-shaped hunter's headgear is worn, are the Aleutian Islands, Kadiak Island, and the mouth of the Yukon River.

Let us now examine the similarities and differences between the western and southwestern Konjag and Aleutian hats. An extraordinary example of ancient headgear of the Northwest Eskimo is in the M. A. E. (Pl. II, Fig. 2). A very similar headgear, but in the form of a visor is illustrated by Nelson (Pl. I, Fig. 4) and another conical shape from the River Kushunuk (Pl. I, Fig. 7). The similarity of this headgear to that of the Aleut is seen mainly in the special ornaments which occur in definite places. We emphasize this regularity, also the parallelism of details on the objects which are separated from each other by a distance of more than 250 miles. The difference lies in the fact that the front part is decidedly shorter than among the Eskimo and that, on the sides of the hats we find, instead of the Aleutian picturesque rosettes and spirals, elongated plates of bone, resembling bird heads. According to Nelson they are heads of gulls or sea ravens.[41] (Pl. I, Figs. 4, 7; Pl. II, Fig. 2). The bone plate which joins the two rear edges is missing here; instead, a bone clamp sewn on to the hat unites the lower rim (Pl. II, Fig. 2), and in place of the sea lion whiskers at the back of the hat there are bunches of feathers. These hats are decorated in color, but not in polychrome as are Aleut hats. The colors are black or white; the tip is in red. The hats in M. A. E. have no colored ornamentation.[42] Nelson states that among the Kushunuk may be found many hats on which some sort of red phallus figures are superimposed upon the white background; however, he does not attempt their interpretation.[43] Among the Kajaligamiut, some sort of red figures may also be observed on the hats. The decoration of the headgear with bone carvings is uniform.[44] Among the Eskimo north of the Yukon only the visor caps are used.[45] Among these are found samples of extraordinary interest, one of which has been published by Nelson. (Pl. I, Fig. 3). Its head, according to Nelson, represents a pike.[46] According to many authors the cone-shaped hats as well as the visor caps are used by the Eskimo as by the Aleut, to protect the eyes from the glare of the sun.

---

[36] *Ibid.,* Part II, p. 218.

[37] Sternberg, L., The Aleut, in the *New Encyclopedic Dictionary* of Brockhaus and Efron.

[38] Nelson, *op. cit.,* p. 167.

[39] Sagoskin, L., *Inventory of Russian Property in America, made 1842–1844,* Part I, 1847, p. 54. (In Russian.)

[40] Hoffman, Walter James, *The Graphic Art of the Eskimo.* Washington, 1897, p. 835.

The headgear of the southwest Eskimo (Konjag) provides us with most valuable material for solving the problem of the origin of the wooden hats in the entire region. J. Lisyansky mentions two names for headgear which he obtained from the Konjag on Kadiak Island. One term is *shaliohpok* and the other *anignak*.[47] Unfortunately, we do not know which of these words applied to the wooden headgear. It may be that a special name existed for the latter. According to the records of Chvostov and Davidov there were various kinds of headgear among the Konjag, including cone-shaped hats which were decorated with glass beads and sea lion whiskers; the low hats only shaded the eyes.[48] The pointed hats were ornamented with colors which, however, are not described by the authors mentioned.[48a] Shelechov notes that on festival days the Konjag wear especially elaborate hats, but he does not describe them.[49] According to him, the Konjag trade with wooden hats at their *Torg* (fair).[50] In Hoffman[51] may be found a more detailed description of a Konjag hat. (See Pl. III, Fig. 5).

---

[41] Nelson, *op. cit.*, pp. 167, 168.

[42] We do not know to which tribe the hats of M. A. E. belong, but considering their almost complete identity with those described by Nelson (Pl. LXIV, Figs. 18 and 22), one may assume they were made by the Ikogmut or Kushunuk.

[43] Nelson, *ibid.*, p. 167.

[44] Nelson, *op. cit.*, p. 168.

[45] *Ibid.*, p. 167.

[46] *Ibid.*, p. 168.

[47] Lisyansky, *op. cit.*, p. 176.

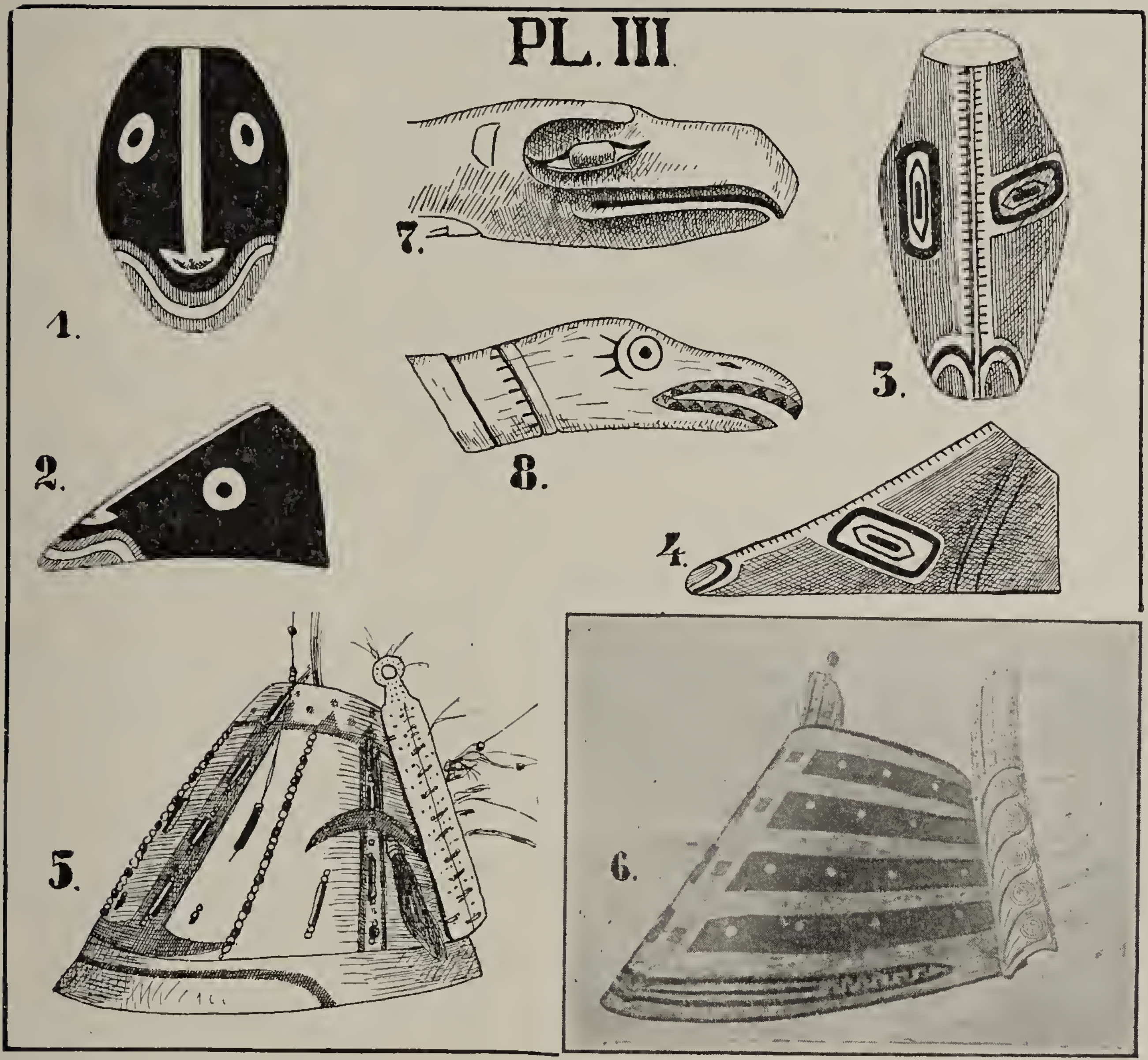
[48] Chvostov and Davidov, *Two Travelers in America.* St. Petersburg, 1812, Part II, p. 17.

[48a] To my knowledge, there are neither in M. A. E. nor in other museums of U. S. S. R. any sharp-pointed hats from the Alaskan Konjag and Kadiak Island.

[49] Shelehov, *op. cit.*, Part I, pp. 154, 155.

[50] *Ibid.*, p. 155.

[51] Hoffman, *op. cit.*, p. 835.



FIGS. 1–2. PAINTED WOODEN HAT IN THE SHAPE OF AN ANIMAL HEAD, KONJAG. M. A. E. NO. 536–11.

FIGS. 3–4. PAINTED WOODEN HAT IN THE SHAPE OF AN ANIMAL HEAD, KONJAG. M. A. E. NO. 2888–33.

FIG. 5. WOODEN HAT, KONJAG, KATMAI, ALASKA. AFTER HOFFMAN.

FIG. 6. PAINTED WOODEN HAT, KONJAG, KATMAI, ALASKA. M. A. E. NO. 593–16.

FIG. 7. HEAD OF A BIRD FIGURE OF WOOD SERVING AS A FLOAT, KONJAG. M. A. E. NO. 2888–91.

FIG. 8. SMALL BONE BIRD HEAD DECORATING THE FRONT OF A WOODEN HUNTING HAT, BERING SEA ESKIMO. M. A. E. NO. 593–51.

The whole surface of this hat is covered with white paint (let us remind you that Aleut hats have a white background). On this, here and there stripes and half moons are superimposed. The central vertical stripe and the side arcs are black. The lower stripe is flesh colored. In Pl. III, Fig. 6 is a photograph of a Konjag hat in the Museum of Anthropology and Ethnography of the Academy of Sciences of the U. S. S. R. Both hats have the tops cut off and come from the village of Katmai in Alaska. In comparing these hats with those of the Aleut and the Eskimo of the northwestern coast of Alaska, we find the following peculiarities. In the first place the hats of the Konjag are shorter than those of the Eskimo. The projection extends very little. This is a very important observation. Furthermore, the Hoffman sample has a vertical stripe which is cut at its lower end by an arc with its extremities directed upward. Finally, both hats have on the lower rim an independent stripe ending on both sides in zigzag lines (Pl. III, Fig. 6). In all other respects the Katmai hats are constructed on the same principles as the Aleut-Eskimo hats discussed above. There are the same lateral additions of bone plates which extend sidewise and hold sea lion whiskers, and on Fig. 6 even wool; the same central frontal stripes; the same marks at the sides over the temples. One more detail should be noted: the Konjag hats as well as those of their kin in northwest Alaska have no colored decoration and lack the variegated color of the Aleut hats.

Having concluded the typological review of the headgear of these regions, we may proceed to our conception of its origin, explaining its form and all the peculiarities and details of ornamentation which have been described and emphasized above. In the literature we find no attempt at the interpretation of these uncommon forms and ornamentation. The authors restricted themselves to the formal description of individual hats and their types and, without exception, called the many additional parts "decorations." We have concluded, however, that, although they occasionally were used as ornamentation, this was not their original function since in the beginning they were an absolutely necessary element of the headgear. If we consider the position of the individual elements on the surface of the hats, we cannot fail to notice that they resemble animal heads. When we view any hat, either from the side or the front, this similarity is always evident, and becomes even more striking if one concentrates upon the details. It is sufficient to examine any one of our hats to be convinced.

It is interesting that the Konjag hats are most markedly zoomorphic. They are the shortest and show the parts of the head most plainly (Pl. III, Figs. 5, 6): eyes, nose, mouth, and ears are all present. The mouth is especially characteristic on the hat in Pl. III, Fig. 6. In the middle, between two black stripes it has a red one, and red teeth in the angles. The standing ears make real snouts out of the hats. Only in the position of the nose, ears, eyes, and mouth are there added elements. On Pl. III, Fig. 5, the mouth region is painted red. The hats of the Northwest Eskimo have changed more than those of the Konjag during the evolutionary process of their parts. But even here the following areas are still marked on the hats: the nose region (by means of bone figures), ears, eyes, representing a pair of bird's heads which are fastened to the proper place (Pl. II, Fig. 2; Pl. I, Figs. 7, 4) and the mouth on the hat M. A. E. (Pl. II, Fig. 2) which, just as by the Konjag, is marked with a red stripe which does not encircle the whole cap but ends in the middle of each side, as may be expected. All of this constitutes the similarity of the profile line. When looking at the hats from above, the resemblance to an animal head becomes even more evident. On Pl. I, Fig. 7, an Eskimo hat is reproduced (after Nelson) and besides it a wooden Haida helmet (after A. Niblack) which represents a wolf's head. According to Niblack this was a ceremonial headdress[52] (Pl. I, Fig. 6). In the hat shown in Fig. 4 of the same Plate, seen from above, all parts confirm the derivation of the form from an animal head. This becomes more convincing if one places this cap next to another made by the same people in the form of a pike's head. (Pl. I, Fig. 3.) The very presence of this evidently zoomorphic headgear shows that this form of cap was not only known to the sea hunters but was a necessity to them.

Aleut hats are most unlike their animal prototypes, but even here the essential parts of the head are present. Many elements (mouth, nose, eyes), instead of being carved in bone, are represented by painting: the eyes in the form of a rosette or a spiral, the mouth by a double line (Pl. II, Fig. 1) between which often a series of dots, circles and zigzag lines (teeth) may be discerned. Especially interesting is Fig. 4, Pl. II, which shows the nearest approach to the animal head among the Aleut. All other forms of painted ornamentation among the Aleut have undergone such a process of evolution that to the Aleut themselves they have lost all similarity to an animal head. But despite this, the artisans hold to the tradition and the individual elements are undeviatingly placed in their respective sections. The painting of the Aleut hats entered an epoch in which the individual sections of the animal head were decorated with whole hunting scenes, with a great number of figures of animals, fish, birds, and humans. (See Pl. IX, Fig. 4.) But even here, the essential parts were preserved; the nose is emphasized and, if viewed from above, reproduces the Eskimo hat (Pl. I, Fig. 7). The ear plates began to show fine bone carving—animals, birds, and small figures of hunters (Pl. IX, Fig. 1).

Thus all the peculiarities noted of the various additional parts of the wooden hats and their distribution on definite sections are explained by the fact that they are not only decorations, but ears, nose, eyes, and mouth parts of animal heads. The following facts prove that this conclusion is not based on an accidental similarity to an animal head. We have already had the opportunity to convince ourselves that the greatest similarity to the animal head is to be found among the hats of the Konjag on Kadiak Island and the coast of Alaska. It is interesting to note that among these people, for a greater period than among any others, the conception of the original zoomorphic shape of hat prevailed. It is particularly striking that among them the hats themselves were preserved in the shape of wooden painted animal heads, realistically executed practically without stylization and ornamentation. This also explains why the other hats of the Konjag lack almost all ornamentation: this was not necessary here. This again supports the assumption that the ornamentation as such, appeared much later, when the form of the hat deviated from its original prototype. In M. A. E. and in the Russian Museum in Leningrad are many models of *baidar* to which are attached wooden human figures wearing the zoomorphic form of hats. These were formerly made by the Kadiak themselves. With astonishing exactness they reproduce all the details of a sea boat and hunting implements, as well as gut clothing. For instance, it is known that the Kadiak painted their faces red[53] before going to sea; this color was found on the island, and parts of the faces of the human figures in the models were also painted red. Consequently, we can rely on these hat models as on exact documents, especially since parts are accurate reproductions of the Aleut hats well known to us. Even the smallest bone plates and sea lion whiskers are imitated. One of the Konjag hat models representing an animal head is shown on Pl. III, Figs. 1, 2; the upper drawing shows the front view, the other, the profile. Every part of the head appears in the real hats of the Katmai only with less realism than described above (Pl. III, Fig. 5). This hat model is an almost perfect cone with the normally extended front portion—only the upper part of the tip is cut off. The other hat model is the same kind (Pl. III, Figs. 3, 4) except that the painting is executed in pure Tlingit style, without, however, destroying the realism of the head. The first model is a prototype of the cone-shaped hats of Bering Sea, particularly those which are painted black with distinct white bone parts of the snout (Pl. II, Fig. 2). The second is apparently an example of the beginning of the stylization of the Aleut hats and the projection is prolonged even more than in the Aleutian hats.

---

[52] Niblack, *op. cit.*, p. 270, Pl. XIII, Fig. 41.

Concerning the large distinctly animal shaped Konjag hats, information may be found in literature. Chvostov and Davidov write that there are many decorated wooden hats resembling seal heads which are worn during the seal hunt.[54] In the M. A. E. is a rare specimen of such a hat (Pl. I, Fig. 5) which dates back to the 40's of the last century. The head is painted black with green spots and a green neck; the eyelids, nostrils, and mouth are red; the mustache is of real sea lion whiskers. Boas has a drawing of a dancer's hat of the Tlingit which also represents a seal head,[55] and is very similar to the Kadiak hat. Even the lighter spots on the neck are in the corresponding places and the neck is distinctly defined. One detail is particularly interesting, a light stripe runs from the occiput to the nose through the center of the head. If we compare this stripe with a similar one on the model hat (Pl. III, Fig. 1) and with the stripe on the hat from Katmai (Pl. III, Fig. 5) then the similarity in the representation of the nasal region is very striking. Still more striking is the fact that the Aleut during the dance wore masks representing sea animals,[56] among them the seal's head.[57] Moreover, these heads were colored red, green, and black,[58] that is, with the same colors as the heads of seal of the Konjag, and all the zoomorphic masks of the Tlingit. If we recall the statement of Lisyansky that the colors most frequently used by the Aleut were black, dark red, and green-blue, which are, as we have seen, characteristic for their hunting hats, then the following becomes clear to us: these colors imitate the color of the parts of the wooden headgear which represent animal heads. In spite of the fact that the Aleut used zoomorphic masks during their dances and festivals, as they were among the Tlingit, Konjag, and Northwest Eskimo, there is, unfortunately, not a single specimen in our Museum. This may perhaps be explained by the fact that, according to Shelehov,[59] the masks are destroyed at the end of the dance, or hidden in caves in the mountains from which they are never removed.[60]

---

[53] Chvostov and Davidov, *op. cit.*, Part II, p. 10.

[54] Chvostov and Davidov, *op. cit.*, Part II, p. 17.

[55] Boas, Franz, The Decorative Art of the Indians of the North Pacific Coast (*Bulletin of the American Museum of Natural History*, Vol. IX, art. X, 1887), p. 123, Fig. 3.

[56] Shelehov, *op. cit.*, Part I, p. 171.

[57] Sarychev, *op. cit.*, Part II, p. 136.

[58] Shelehov, *op. cit.*, Part I, pp. 170, 171.

We take for granted that these wooden hats were originally masks of a religious and magic character which played a very important rôle in the life of the sea hunters. This supposition is based on the following facts: first, that the Aleut, Eskimo, and Indians of the Northwest Coast of America used zoomorphic masks which represented game; secondly, that these masks and hats were used during the winter festivals,[61] during the ritual dances; thirdly, that among the Konjag and Northwest Eskimo animal hats were used only during the hunt for sea game;[62] fourthly, that the wooden hats of the Aleut-Eskimo region are no more than the same animal heads.

We learn from literature the significance of these zoomorphic masks to these peoples. Masks worn by the Northwest Coast Indians during their religious ceremonies make the wearer identical with the creature represented and therefore "the mask itself is a magic object."[63] According to Nelson, the Bering Sea Eskimo believe that they become the animals represented by the masks they wear or become partners of its spiritual substance.[64]

Among the Eskimo as well as the Aleut, besides animal masks those representing invisible spirits living in heaven, the ocean, and on earth, are used. They can only be seen by the shamans who are the sole producers of the masks among the Aleut and Eskimo.[65] According to the Aleut, the festivals themselves were introduced by the shaman who impressed the Aleut "with the belief that the spirits serving them loved amusements and promise in return to cast whales on the shore." For such festivals wooden masks were generally made corresponding to the spirits which appeared before the shaman.[66] Here apparently lies the real meaning of the festivals as well as of the masks, especially when one considers the fact that these feasts began in the winter and continued until spring, that is, they preceded the hunting seasons. The masks also often represented totem animals, at least among the Eskimo.[67] Nelson gives an explanation of the shamanistic masks, based on oral information from the Eskimo. We find that the Eskimo believed that in former days all animate creatures were half man, half animal and that they could take on one form or the other of their own accord and that according to this all men are transformed animals. The shamans believe that, with the help of the masks, they have the power to recognize human features in the animals.[69] The Kwakiutl also believe that humans formerly were animals,[69] etc.

---

[59] *Ibid.*, p. 171.

[60] Both human-shaped wooden masks of Atcha Island which are kept at M. A. E. were found in a cave.

[61] Sarychev, *op. cit.*, Part II, p. 134 (Aleut); Shelehov, Part I, p. 171 (Aleut); Lisyansky, Part II, p. 95 (Konjag); Chvostov and Davidov, Part II, p. 90 (Konjag); Nelson, pp. 407, 408 (Northwestern Eskimo); Adam, L., *Nordwest-amerikanische Indianer Kunst*, p. 26 (Tlingit).

[62] Among hunting tribes who are neighbors of the Eskimo, like the Athaspacan Indians, there are no animal shaped hats. These occur only in the sea hunting region.

[63] Adam, *ibid.*, p. 14.

[64] Nelson, *op. cit.*, p. 395.

[65] Nelson, *op. cit.*, p. 393 (Eskimo); Veniaminov, Part III, p. 6 (Aleut).

[66] Sarychev, *op. cit.*, Part II, p. 134; Shelehov, Part I, p. 17.

[67] Nelson, p. 395.

The conception of the transformation of man into an animal was not foreign to the Aleut, as it is demonstrated by the fact that they considered the sea-otter a transformed human being. Thus we are confronted with similar ideas.

In evaluating all these data we may presuppose that the basic cause for wearing the zoomorphic mask-hats during the hunt was the desire to create bonds of intimacy and relationship with the animal; to show the animal that the hunter is actually the same animal and that for this reason he is not to be feared, and that the hunter sees himself in the animal. In this way the animal was, of course, attracted to the hunter and assured his success which had already been invoked from the spirits during the winter festival. Aleut hats in this way form an entity with not only the Eskimo, but also with the Indian headgear and masks. They have a religious significance and form a part of the male religious art, the inspirers being the shamans.

The eastern corner of the triangle which outlines the area of the distribution of the headgear in which we are interested must now be extended further to the south and located in the territory of the Kwakiutl. In this way we have a new triangle, namely, the Aleutian Islands in the west, Vancouver Island to the southeast, and Norton Bay to the north.

The similarity of the Aleut-Eskimo mask and its religious meaning to those of the Northwest Coast Indians will not surprise us, if we accept the theory of Ratzel. He notes the commercial contact of the Eskimo with the Indians and contends that their peaceful relations led in time to an adoption of some Indian objects by the Eskimo, among them also the masks.[70] Moreover, the Aleut and the Eskimo and also the Indians of the Northwest Coast of America are all sea hunters for large game.

In fact, the Eskimo and Aleut masks even in detail strikingly resemble those of the Tlingit. In Pl. I, Figs. 2, 1, may be seen a zoomorphic mask of the Tlingit belonging to the M. A. E. The snout of the animal extends forward in the same way as the elongated part of the hats. This mask has no upper portion and is fastened to the head by a hoop and approaches in type the open caps of the Eskimo and Aleut (Pl. I, Fig. 4, Eskimo cap). The ears point upward as in the Konjag and Aleut hats and it is similarly decorated in the rear with bunches of hair. Wool is stuffed into the ears of the Konjag hats, and sea lion whiskers in those of the Aleut. In Pl. II, Fig. 3, we find a Tlingit mask which is very similar to this type of hat. Here feathers are used as decorations as by the Eskimo and sea lion whiskers as by the Aleut and Konjag. The long nose and large eyes are extremely reminiscent of an Aleutian hat (Cf. Fig. 1 of the same Plate). This

---

[68] *Ibid.*, p. 395.

[69] Boas, quoted in Adam's work, p. 18.

[70] Ratzel, Fr.; *Ethnology*, Vol. 1. St. Petersburg, p. 573 (In Russian).

mask-headgear is published in the work of E. S. A. Ratner-Sternberg and is called *mosquito.*[71] With this mask, as well as with the raven mask published by Volkov and Rudyenko,[72] there are also wings and a tail which are lacking in our hats. But it becomes evident that such masks also existed among the Aleut and Eskimo and probably represented the remnants of headgear and masks shaped like birds. The Aleut, according to Bancroft had, in addition to the wooden hats, some made of birdskins on which brilliant tail or wing feathers were fastened.''[73] Shelehov reports on the Eskimo of Kadiak Island that ''some wear hats of many colored birdskins on which parts of the wings and tail are preserved.''[74] The masks and hats in the form of entire birds, particularly of bird heads, are a typically Indian phenomenon and are encountered among the Tlingit, Haida, Kwakiutl[75] and other peoples of the Northwest Coast of America. Among the Plains Indians we find instead of birds, only eagle feathers which are symbolic of the sun.[76] Eagle helmet masks were also found among the ancient Aztec.[77] It is interesting to note that on one of the paintings at Teotihuacan in Mexico[78] a number of people are shown with headgear which resembles the zoomorphic hats of the Eskimo, Aleut, and Tlingit. They all represent animal heads which are decorated at the back with feathers similar to the Aleutian decorations of sea lion whiskers. Dakota chiefs are represented with birds on their heads.[79] This typical headgear, masks, and Indian symbols extends from the Indians to the Aleut and proves once more how at one time Indian culture influenced the Aleutian. This fact is confirmed not only by the headgear but also by many other analogies.[80] In addition to the territorial proximity, both peoples undertook extensive sea journeys to the neighboring tribes both in war and peace.[81] These wars brought them honor, enabled them to trade, furnished slaves and war trophies, and naturally brought them in contact with foreign cultures. According to Veniaminov, the Aleut assimilated foreign cultures extremely easily.[82] But all Aleut hats are more distantly related to the Indian zoomorphic prototype than to the Eskimo, which may probably be ascribed to the greater territorial separation and a lessening of a former close contact between the Aleut and the Indians. This contact was even greater among the Kadiak who, as has been shown, have preserved a more distinct zoomorphic type of hat. In order to bring to a final issue the question of headgear we must say a few words about the striped top of the Aleut hats. I have already mentioned that the crown of the hats forms an independent part. But we are particularly interested in the painting of the crown with alternating stripes (Pl. II, Figs. 1, 4). The pointing and striping of the top is not explained by the animal head. Among the Konjag, who prove to be a link between the Aleut and Tlingit, we find round hats woven from roots of trees and grasses. These hats are cone-shaped with the tips cut off.[83] Some of them have a sectioned cylindrical top. This type of hat is derived from the Tlingit,[84] but even among these, the wearing of the cylindrical top is a privilege of the chieftains and nobility (See Pl. II, Fig. 7). The rims of such hats are always painted with the same green, black, and red colors as may be seen on the drawing in the form of animal heads or a complete figure which covers the whole surface. The top is here, as among the Aleut, a separate part, a sign of honor. It seems that the Tlingit formerly made these hats of wood, which is indicated by the ancient form. They are now very scarce and greatly valued by the Indians.[85] Another form, the wooden dance hat of the Haida is seen on Plate II, Fig. 8. It also has such a cylindrical top. It represents a beaver. According to this the zoomorphic wooden hats with sectioned tops are still extant among the Northwest Coast Indians. It seems that the division of the upper part of the Aleut hats may be viewed as a sign of distinction which was formerly fastened to the animal head and which later was fused with the hat forming a single entity. Our assumption seems the more plausible since the hats with the tops among the Aleut were also worn only by the rich and the honored, while the others used caps with an open top. An important difference between the top of the Aleutian type of hat and that of the Indian hat is its narrowing towards the top. But if we examine the old wooden totem poles of the Tlingit we may observe the reproduction of hats which have just such a pointed top divided into sections (see Pl. II, Fig. 5).[86]

---

[71] Ratner-Sternberg, S. A., Museum material on Tlingit Shamanism, *Handbook M. A. E. of Academy of Sciences, U. S. S. R.*, Vol. VI, Plate IV, Fig. 3.

[72] Volkov and Rudyenko, Ethnographic Collections from ex-Russian-American Territory, Materials for Ethnography of Russia, Vol. 1, St. Petersburg, 1910. (In Russian.) Plate IX, the upper drawing.

[73] Bancroft, *op. cit.*, p. 89.

[74] Shelehov, Part I, pp. 154, 155.

[75] Splendid large examples of Kwakiutl masks, in the shape of eagle heads and other birds, are illustrated in the extensive work of Franz Boas, The Social Organization and the Secret Societies of the Kwakiutl Indians, *Annual Report, Smithsonian Institution,* Washington, 1897, Pt. II.

[76] Krickeberg, W., Malerien auf ledernen Zeremonialkleidern der Nordwestamerikaner, *Ipek,* 1925, 148.

[77] See, for example, the illustration on p. 9 of Th. W. Danzel's: *Handbuch der präkolumbischen Kultur in Lateinamerika.* Berlin, 1927. A chief is carried on a litter; his whole face is placed in a large eagle's head which is decorated with feathers. Compare this mask with the eagle masks of the present-day Kwakiutl, illustration 138, a quotation from Franz Boas, *The Social Organization and the Secret Societies of the Kwakiutl Indians,* p. 491. The similarity is striking.

[78] Verman, *History of Art of All Times and Peoples.* St. Petersburg, 1903, Vol. I.

[79] Mallery, Garrick, Picture-Writing of the American Indians, *Tenth Annual Report, Bureau of Ethnology,* Washington, 1893, Pl. XXVII and others.

[80] It must be remembered that among the Aleut, as well as among the Konjag and Northwest Coast Indians there was slavery; that among these three tribes but not among the Northwestern and Central Eskimo the population was divided into classes; that they all lived in large communal wooden houses in clan groups; that the Aleut, like the Indians, were proud to take their enemies' scalps (Veniaminov, II, p. 94) as trophies. Like the Northwest Coast Indians, the rich Aleut were buried in boats suspended on poles (see in Shurz, *Primitive Culture,* p. 165, Indian burial; for Aleutian burials in boats see: Shelehov, *op. cit.,* Part I, p. 172).

---

[81] Adam, *op. cit.*, p. 8; The Aleut, in the *New Encyclopaedic Dictionary* of Brockhaus.

[82] Veniaminov, Part II, p. 15.

[83] Shelehov, Part I, p. 74; Chvostov and Davidov, Part II, pp. 16, 17. In the latter work is a reference to colored painting; above is drawn a crawfish, a seal, and other animals. Thus this form of hat can be correlated with the zoomorphic type.

[84] This is directly indicated in the catalogue of the A. N. Museum which C. A. Ratner-Sternberg has compiled. (*Guide through M. A. E. North America.* Petrograd, 1917, p. 66.)

[85] Adam, *op. cit.*, p. 43. Niblack makes the statement that round wooden hats in the shape of animal heads (Pl. I, Fig. 6, represents a wolf) or, containing complete animal figures, are the ancient form of helmet formerly worn by the leader during war and which later became a ceremonial object (*op. cit.*, p. 270).

[86] Figs. 5 and 7, Pl. II, were taken from Adam's book, cited above.

With this, we complete the description and explanation of the general form of the Aleutian headgear and its separate parts.

II. THE ORNAMENTATION OF THE HEADGEAR

Let us now, with their evolution in mind, discuss the details of the artistic craftsmanship of the Aleut hats. We will begin with the sculpture in bone. Until now we have emphasized the great influence of the Indian culture on the Aleut. Now we must turn to the north, to the well known art of the Eskimo bone carvers. It is interesting to note that bone carving developed to its greatest extent in only two centers of northeast Asia and northwest America. The western center is represented by the Maritime Chukchee and Maritime Koryak who live on the Asiatic mainland, the other center is to the southeast and lies on the western shore of Alaska (Eskimo and Aleut). Among the Reindeer Chukchee this art is not developed,[87] just as it is not found among the Reindeer Koryak which Jochelson explains by lack of leisure for the pursuit of this art.[88] Although the Eskimo carve figures in bone, according to Bogoras,[89] they prefer line drawing to sculpture. Thus we find carving only on a narrow strip along the American coast. In relying on Veniaminov's statement, that the Alaskan Aleut are particularly skilled in producing bone articles,[90] we must exclude the chain of Aleutian Islands from the center of bone carving. The special development of the Aleutian carving in Alaska is evidently explained by the fact that walrus, according to Veniaminov, are found in great abundance on the northern shore of Alaska and seldom[91] in other parts, and walrus tusks are the finest material for carving.

Kadiak Island is the southern boundary of the distribution of naturalistic bone carvings in America.[92]

The Aleut bone carvings revealed their northern spirit, realism, keen power of observation of the hunter, love of expression, and movement. All these characteristics make for a relationship between the Aleut and the Eskimo and lead toward the north and across the sea to the northwest, to Asia, to the Chukchee and Koryak. Aleutian sculpture should be compared with the bone sculpture of those Paleoasiatics who are, like the Aleut, sea hunters. In the headgear of the Aleut may be found evidence of two different culture influences; from the south, a colorful wood painting culture; from the north a calculating, cold, strictly bone carving culture. The first has developed without restraint; the painting covers the entire surface of the hat and unfolds in bright spots of variegated colors. The second is reserved, the bone carving is confined to small sections, shows great perseverance and almost loses itself in the ornate decorations of the hat. The bone carving which has adjusted itself to the hats discloses only a restricted phase of this original Aleutian art. But even this minimum suffices to permit a valuation of the artistic aptitude of the Aleutian carver, his patience, power of observation, and dexterity.

---

[87] Bogoras, W. G., The Material Life of the Chukchee, *Museum of Anthropology and Ethnography* A. N., Vol. II, Sib. 1901, p. 54. (In Russian.)

[88] Jochelson, W., *The Koryak*, p. 649.

[89] Bogoras, *op. cit.*, pp. 54, 55.

[90] Veniaminov, *op. cit.*, Vol. I, p. 237.

[91] Veniaminov, *op. cit.*, Vol. II, p. 384.

[92] This boundary ends abruptly at the territory of the Tlingit. It is true that here also are found bone objects which belong mainly to shamanism; but they are of purely Tlingit style; in addition, their number is very limited. M. A. E. possesses a few such objects, published by S. A. Ratner-Sternberg in the work cited above (*Material on Tlingit Shamanism*), Figs. 7–8, which represent a man's figure, and Fig. 6, representing an eagle head.

Even Veniaminov was astonished to see the Aleut in a few months carve figures in bone with a simple knife.

In Pl. IX, Fig. 1, is shown the peak of an Aleutian hat. A group of figures decorates the rear bone plate, the other two groups are distributed over the side plates. All three groups represent hunting scenes. The human figure on the very top was unfortunately broken off and lost. Only a part of the right leg up to the knee remains, and the left foot. The animal figure is complete and is, judging from the split hoofs, a deer. The group on the right shows a hunter holding in his hand a club with which he is about to stun a seal. In the left group the hunter is aiming with a bow at some animal, probably also a deer. All the figures are very small and are stylistically close to the Chukchee-Koryak type.[93] One detail in the representation of human figures is interesting, all have a slight bend in the knees. Sarychev wrote that due to the sedentary mode of life among the Aleut the legs are never fully extended, but are always slightly flexed in the knee.[94] Veniaminov made the same observation forty years later.[95] In this way the strictly realistic sculpture reflects even the somatic peculiarities of the tribe. Since, on the one hand, one of the figures uses an arrow and, on the other hand, small deer are represented, we may assume that this particular Aleutian hat of the M. A. E. collection is derived either from Alaska or from one of the nearby islands,[96] because according to Veniaminov deer occur only in this region (Alaska, Unimak, Shumagin Islands) and are of a small species,[97] and because the use of bows extends over this same region.[98] Two other hats show, on the corresponding parts, figures of birds made of bone, instead of hunting scenes. There are examples with three moderately large birds attached above each side plate. Often the bird figures are painted black. The ancient hat of the Central Museum of Ethnography in Moscow shows a tip decorated with a large bird head.[99] Pl. IV, Fig. 6 (M. A. E.) presents a sea-otter lying on his back.

Sometimes idols are placed on the tips of hats. This problem is commented on by Georgi as follows:—

> ''On the upper rim is fastened an idol, usually an inch in length, which is made of bone and resembles a sitting human. . . .''[100]

---

[93] Compare with the bone figures of the Chukchee published by Bogoras, *Material Life of the Chukchee,* Table XX on e XXI, and also in his monograph, *The Chukchee.* For bone figures of the Koryak see Jochelson, *The Koryak,* Figs. 169, 175, 178d, 179, 180 and 181.

[94] Sarychev, *op. cit.,* Part II, p. 16.

[95] Veniaminov, *op. cit.,* Part II, p. 6.

[96] In the museum catalogue the location is not given.

[97] Veniaminov, Part II, p. 329.

[98] *Ibid.,* p. 248.

[99] The head is lost. Fortunately there exists a photograph of this hat to be found on p. 15 of the illustrated catalogue, published in 1910, *Musée Ethnographique Dachkov au Musée Publique et Musée Roumianzoo à Moscou,* under the editorship of Yanchouk. In the photograph which was taken from above, a bird head may be seen.

[100] Georgi, *op. cit.,* Part III, p. 90.

There seems to be only one example of this kind which has been preserved. Its value for us is twofold. First, there is only one hat in U. S. S. R.[101] with such an idol; secondly, even among the Aleut, idols were very infrequent, and only the shaman possessed them.[102] The bone idol on the hat N 2868–23 M. A. E. has the pose of a seated human figure, with hands resting on the knees. The body is treated schematically, but the head shows fine modeling. The lower part of the right leg is broken off. The figure is three and one half centimeters high. It is fastened to the hat by means of sinew. Another eyewitness confirms the opinion, that this figure really represents an idol. Shelehov writes:—

> "The inhabitants of islands also wear some figures on their hats; moreover, they place them near the yurta (tent), in order to keep away devils and evil spirits."

This information refers to the eighteenth century.[103] We did not find any anthropomorphic figures on Eskimo hats.

Of special interest are also the bone side plates which are, as has been shown, the conventional ears of the hat-mask. In Pl. IV are illustrated all types of plates contained in the M. A. E. collection (No. 4–13 incl., and Nos. 16 and 17). Moreover, on the same Plate, for comparison, are added two Eskimo ear plates (No. 14—from Bering Sea Eskimo hat and No. 15 from the Konjag hat); also three eye plates of Eskimo and Aleut (Nos. 1 and 2 from hats of Bering Sea Eskimo; No. 3 from an Aleutian visor in the Central Museum of Ethnology). The ear plates are of different size; the height of the samples in the M. A. E. varies from 5½ to 20 centimeters.

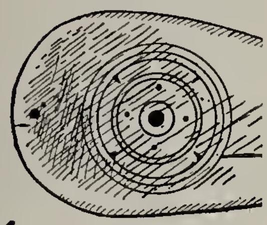
Not only are the Aleutian hats, as a whole, but their ear plates more different from the animal prototype than are those of the Eskimo. Among the Aleut the form of the plates is more conventional than among the Eskimo; the Aleutian ornamentation covering the surface of the plates represents a further development of the Eskimo ornamentation. In some samples the alteration is so extreme that only by means of a few details can complicated conventional forms be identified with the ancient and realistic Eskimo originals. What do the Eskimo plates represent? As Figs. 14 and 15 on Pl. IV show, they have an elongated form resembling a narrow frame, into which a number of other elements are inserted. These consist of lines arranged obliquely to the frame and one above another, ending with the concentric circles with a dot in the center. The elements are separated by interposed cuts. On the Bering Sea plate there are three such elements, on that of the Konjag five. While studying the details of these elements, more particulars can be noted, namely, in each system of concentric circles on Pl. IV, Fig. 14, are dots arranged like a cross; and on the rim of each external circle are three small dashes. We do know that the Eskimo usually picture eyes as concentric circles provided with dots (either one or several) within and three dashes expanding fan-like peripherally. On Pl. IV, Fig. 1, is seen a bird head from an Eskimo hat, which is also shown in Pl. II, Fig. 2, and which has a central dot (the pupil) in the eye and dots arranged crosswise. On the round bone head of the bird taken from the same hat and

---

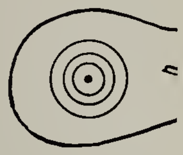
[101] Possibly there is no other sample in the world, since in the West and in America Aleutian collections were made later.

[102] Veniaminov, *op. cit.*, Part III, pp. 3, 4.

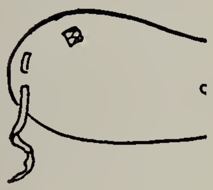
[103] Shelehov, *op. cit.*, Part I, p. 171.



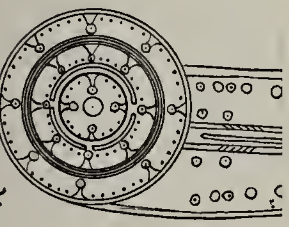
1



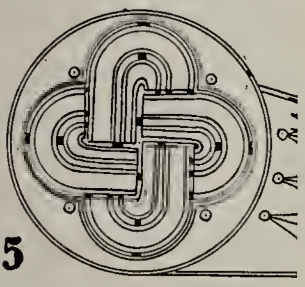
2



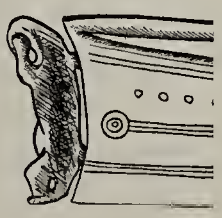
3



4



5



6

Fig. 1. ENGRAVED BON
Fig. 2. ENGRAVED BO
Fig. 3. ENGRAVED BO
Figs. 4–13. ENGRAVED
2868–3
Fig. 14. CARVED BONE
Fig. 15. CARVED BON
Figs. 16–17. ENGRAVE

There seems to be only one example of this kind which has been preserved. Its value for us is twofold. First, there is only one hat in U. S. S. R.[101] with such an idol; secondly, even among the Aleut, idols were very infrequent, and only the shaman possessed them.[102] The bone idol on the hat N 2868–23 M. A. E. has the pose of a seated human figure, with hands resting on the knees. The body is treated schematically, but the head shows fine modeling. The lower part of the right leg is broken off. The figure is three and one half centimeters high. It is fastened to the hat by means of sinew. Another eyewitness confirms the opinion, that this figure really represents an idol. Shelehov writes:—

> "The inhabitants of islands also wear some figures on their hats; moreover, they place them near the yurta (tent), in order to keep away devils and evil spirits."

This information refers to the eighteenth century.[103] We did not find any anthropomorphic figures on Eskimo hats.

Of special interest are also the bone side plates which are, as has been shown, the conventional ears of the hat-mask. In Pl. IV are illustrated all types of plates contained in the M. A. E. collection (No. 4–13 incl., and Nos. 16 and 17). Moreover, on the same Plate, for comparison, are added two Eskimo ear plates (No. 14—from Bering Sea Eskimo hat and No. 15 from the Konjag hat); also three eye plates of Eskimo and Aleut (Nos. 1 and 2 from hats of Bering Sea Eskimo; No. 3 from an Aleutian visor in the Central Museum of Ethnology). The ear plates are of different size; the height of the samples in the M. A. E. varies from 5½ to 20 centimeters.

Not only are the Aleutian hats, as a whole, but their ear plates more different from the animal prototype than are those of the Eskimo. Among the Aleut the form of the plates is more conventional than among the Eskimo; the Aleutian ornamentation covering the surface of the plates represents a further development of the Eskimo ornamentation. In some samples the alteration is so extreme that only by means of a few details can complicated conventional forms be identified with the ancient and realistic Eskimo originals. What do the Eskimo plates represent? As Figs. 14 and 15 on Pl. IV show, they have an elongated form resembling a narrow frame, into which a number of other elements are inserted. These consist of lines arranged obliquely to the frame and one above another, ending with the concentric circles with a dot in the center. The elements are separated by interposed cuts. On the Bering Sea plate there are three such elements, on that of the Konjag five. While studying the details of these elements, more particulars can be noted, namely, in each system of concentric circles on Pl. IV, Fig. 14, are dots arranged like a cross; and on the rim of each external circle are three small dashes. We do know that the Eskimo usually picture eyes as concentric circles provided with dots (either one or several) within and three dashes expanding fan-like peripherally. On Pl. IV, Fig. 1, is seen a bird head from an Eskimo hat, which is also shown in Pl. II, Fig. 2, and which has a central dot (the pupil) in the eye and dots arranged crosswise. On the round bone head of the bird taken from the same hat and

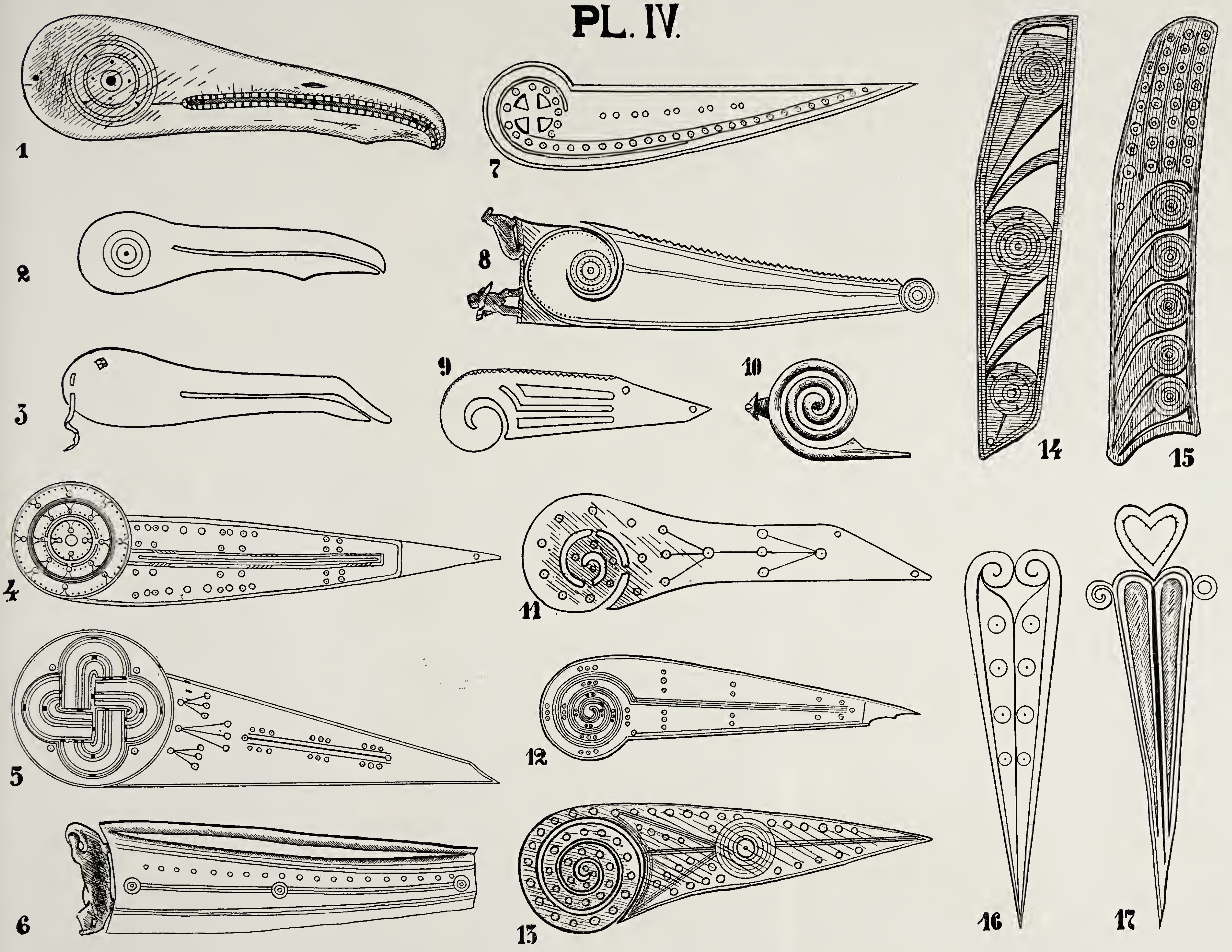
---

[101] Possibly there is no other sample in the world, since in the West and in America Aleutian collections were made later.

[102] Veniaminov, *op. cit.*, Part III, pp. 3, 4.

[103] Shelehov, *op. cit.*, Part I, p. 171.

PL. IV.



BONE CARVINGS

FIG. 1. ENGRAVED BONE PLATE FROM A HAT, BERING SEA ESKIMO. M. A. E. NO. 593–51.
FIG. 2. ENGRAVED BONE PLATE FROM A HAT, BERING STRAIT ESKIMO. AFTER NELSON.
FIG. 3. ENGRAVED BONE PLATE FROM A VISOR, ALEUT. CENTRAL MUSEUM OF ETHNOGRAPHY IN MOSCOW NO. IV–525.
FIGS. 4–13. ENGRAVED BONE PLATES FROM ALEUTIAN HEADGEAR. M. A. E. NOS. 2868–38, 2868–106, 2868–80, 2868–43, 2868–84, 2868–41, 2868–106, 563–1, 2868–39, 2868–44.
FIG. 14. CARVED BONE PLATE FROM A HAT, BERING SEA ESKIMO. M. A. E. NO. 593–51.
FIG. 15. CARVED BONE PLATE FROM A HAT, KONJAG, KATMAI, ALASKA. M. A. E. NO. 593–16.
FIGS. 16–17. ENGRAVED BONE PLATES FROM ALEUTIAN HEADGEAR. M. A. E. NO. 2868–83, 536–13.

shown in Pl. III, Fig. 8, we can see, near the eye, a curve with three diverging dashes which is another method of depicting eyes. Hoffman has gathered a series of similar eye pictures.[104] Thus, the internal element of our plates is the bird's eye. The line extending from the eye and denoting the beak, suggests this. Birds' heads, with the bills downward, fill out the plates. Among the Eskimo there are several birds' heads on the ear plates, among the Aleut there is but one also with the beak pointing downward. Any Aleutian plate will show the prominent head portion with the eye in the middle and the beak which narrows towards its end; the latter is sharply divided in half by the line indicating the pharynx. This line is very distinct on Pl. IV, Fig. 1, where it is colored red. On Aleutian plates it is expressed by a series of circles (Pl. IV, Fig. 7) and by double (Pl. IV, Fig. 8) or triple lines (Pl. IV, Figs. 12, 13); finally, by means of a series of lines and circles (Pl. IV, Figs. 4, 5, 6, 11). The geometrically conceived eye always preserves signs of its origin. In Pl. IV, Fig. 1, simple dashes and dots are arranged to form a cross within the eye; in Pl. IV, Fig. 4, the dots are shown as circles with central dots, and on Pl. IV, Fig. 5, the eye has changed into a complicated cross, consisting of two interwoven ovals. In Pl. IV, Fig. 7, this cross is marked by means of open grooves, and in Fig. 12 it consists of three rows of circles with dots. In addition to the usual concentric circles, here is also seen a spiral, the origin of which can already be discerned in Pl. IV, Figs. 7 and 8, where we find the coexistence of the spiral and circles. With the appearance of the spiral the stylization merges into such forms as shown in Figs. 9, 13, and finally 10, where the beak has almost disappeared. It may be mentioned that Fig. 10 is a striking example of Aleutian craftsmanship: what dexterity and knowledge must the artist have possessed to carve a spiral with three turns in the bone! It must be emphasized that this spiral is not flat but plastic, consisting of a cylindrical bone shaft.

In some examples the portion corresponding to the eyes is altogether lacking; instead, a separate figure is placed there, for example, a sea-otter (Pl. IV, Fig. 6). Sometimes the plate is shaped like stylized bird heads, as seen in Figs 16 and 17. There is one feature of special interest: the crookedness of the beak which is characteristic for the more realistic bird heads of the Eskimo (Pl. IV, Figs. 1, 2) as well as for the Aleutian (Pl. IV, Fig. 3). This is marked on almost all other plates, either by means of a sharp angle or by protuberances (Pl. IV, Figs 5, 9, 11, 12, 13, 17).

There is no explanation for the fact that bird heads appeared in place of the ears; moreover, unfortunately there exists no exact interpretation of the type of bird. We have already quoted Nelson's opinion, who sees in some figures the head of a sea raven, in others that of a gull. The latter assumption is rather plausible, especially since the Aleut did not use the gull for food.[105] However, other birds could have been carved just as well. The bone head Pl. III, Fig. 8, which was placed upon the same hat as the flat head (Pl. IV, Fig. 1) may be that of a raven or even an eagle, the flesh of which was also not eaten by the Aleut.[106] It seems that the placing of birds' heads on hats has some symbolic significance. In addition to bird masks the Indians of the Northwest Coast of America place on hats special bird heads made of wood, similar to those of the Eskimo-Aleutian.[107] In Pl. III, Fig. 7, the head of a grebe of Kadiak Island is shown, cut in wood. The wooden figure of a grebe was used by the Konjag as bait for fishing.[108]

---

[104] Hoffman, *op. cit.*, Pl. 77, Figs. 6, 8, 12, and 13.

[105] Veniaminov, Part III, p. 14.

[106] *Ibid.*

The bird head motive entered Aleutian painting. Those design units which appear in varied colors, the stripes, rosettes, crosses, single, paired and s-shaped spirals, etc., are stylized birds' heads and parts of them in different combinations. S. A. Ratner-Sternberg in 1923 noticed the similarity of some elements of Aleutian ornamental painting to the bird head.

There are almost no references in the literature pertaining to the origin and the character of the motive used in Aleutian hat painting. There is no detailed study of it. In Volkov and Rudyenko there are but casual remarks on this question. They state that ''sometimes a human face is represented, sometimes there are totem characteristics——,'' reminiscent of the raven totem symbol. A hat in the collection of the State's Russian Museum, shown on Pl. II, Fig. 4, is discussed.[109] Earlier authors mention almost nothing. As for the paintings supposedly representing a human face, these had not been met with even among the collections of the Russian Museum previously mentioned. We do not know the basis of the statements of these authors. From our point of view, the conventional form of bird head served as a prototype for the main motives of Aleutian painting. In this head the eye has the form of the beginning spiral with the round pupil in the center (Pl. V, Fig. 1) which is very closely related to the bone plate of Pl. IV, Figs. 8, 11. A realistic representation of a birds' head (Pl. V, Fig. 1) appears in paintings with the same characteristic details: the eye and beak. Another no less realistic sample of a head is shown in Fig. 6 of the same Plate. Here the aperture of the bill is executed as is that of the bone head in Pl. IV, Fig. 1. In most instances the eye preserves the form of an octagonal rosette (Pl. V, Figs. 5, 6, 9, 10) or of a not very definite spiral (Pl. V, Figs. 2, 4, 11, 12, 13). Often the rosette eye receives an independent significance and is placed on the end of the hat when there is no bill (Pl. IX, Fig. 5). But of greatest interest is the whole composition of the various heads.

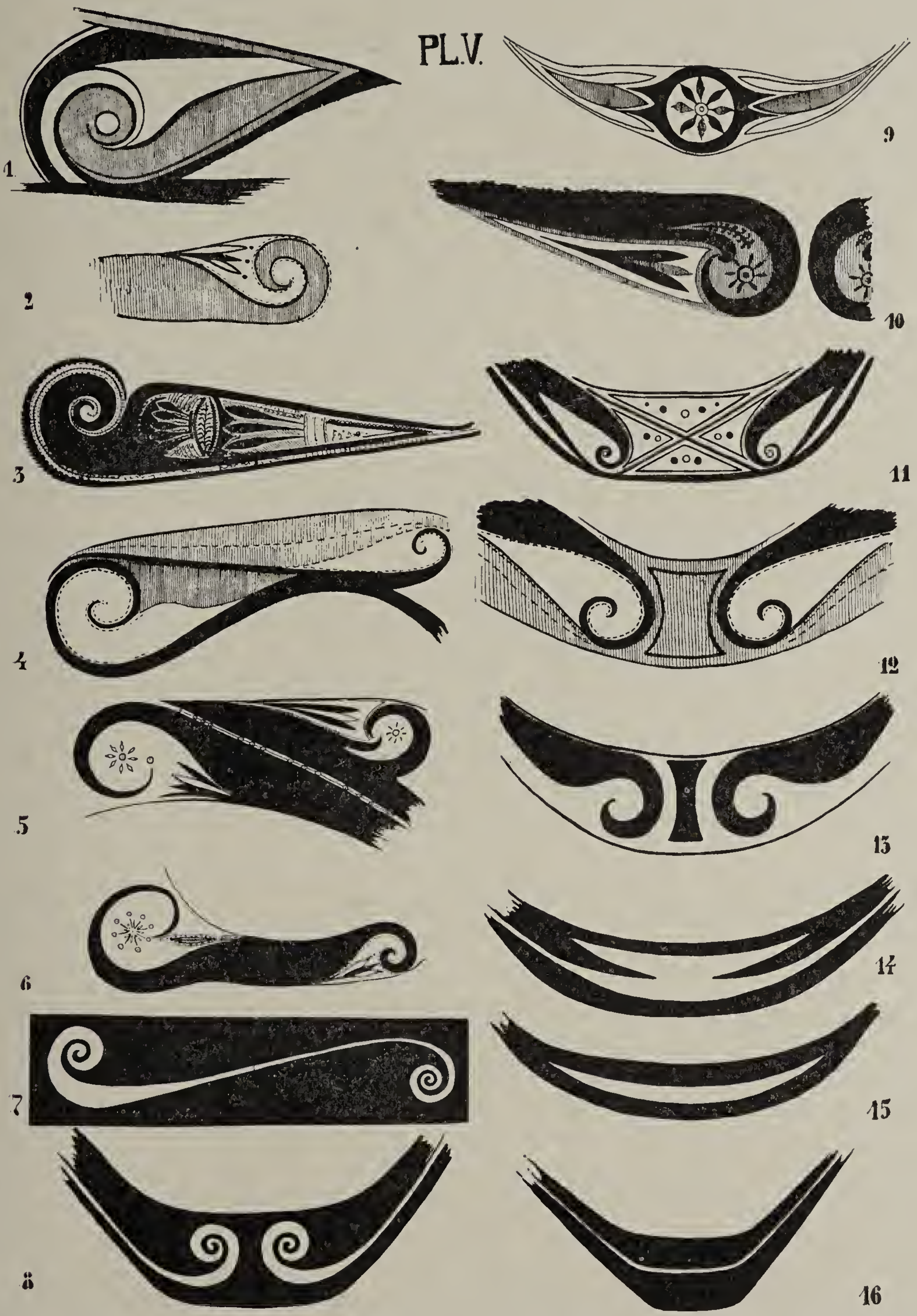
A great range in color as well as a keen sense of composition may be noted. When correlated with each other, the birds' heads gradually lose their realistic features. They change into complicated elongated spirals, and finally, into narrow paired stripes. In painting, the stylization of bird heads went further than in bone carving; this is plausible, since the hard material (bone) and the more difficult task of cutting, confine the artist to the simpler forms, which remain related to the originals. However, in painting, the artist is not so bound by his technique; the work with the brush permits him to deviate more readily from the primary form; he may allow himself to be carried away by purely decorative effects, to increase the colors and thus get away from the source that provided him with the theme. In the Aleutian painting there appear thick,

---

[107] Compare with Tlingit headgear with a bird's head on the top; Pl. IV, Fig. 2, quoted from S. A. Ratner-Sternberg, *Museum Material on Tlingit Shamanism.*

[108] This is according to an inventory of M. A. E.

[109] Volkov, F. and Rudyenko, S., *op. cit.*, pp. 194, 195.



Figs. 1–16. PAINTED ELEMENTS FROM WOODEN HEADGEAR, ALEUTIAN, SHOWING THE PROCESS OF CONVENTIONALIZATION OF THE BIRD HEAD. NOS. 1–3, SEPARATE HEADS; NOS. 4–7, DOUBLE HEADS TRANSFORMED INTO SPIRALS; NOS. 8–16, DOUBLE HEADS TRANSFORMED INTO PARALLEL STRIPES. M. A. E. 2868–37, 2868–106, 2868–40, 563–1, 2868–41, 2868–106, 2868–36, 2868–36, 2868–41, 2868–41, 2868–37, 561–1, 2868–80, 561–1, 561–1.

broad lines and complete stripes covering the surface of the hat symmetrically; these elements are unknown to the Eskimo who use color on the hats sparingly. The Aleutian painter always makes two large bird head images on the hat mask in the region of the eye. As among the Eskimo, the head is directed with its beak toward the front end of the hat. An especially interesting figure of a bird head on the model of a hat is in the State Russian Museum in Leningrad (Pl. II, Fig. 6); there the bird head is also located in the region of the eyes and is the most realistic of all known Aleutian painted head images. In Pl. IX, Fig. 4, two large stylized heads are spread over the whole hat. They show large spirals instead of eyes and, in the beak a series of other painted elements, even small hunting scenes. One of these large heads is seen in Pl. V, Fig. 3. As can be observed in Pl. IX, Fig. 5, several small heads are placed near the large ones with their beaks towards them. Below are placed heads with bills so elongated that they reach the rear of the hat, being converted into two or three thin stripes. They cause the hat to appear polychrome and striped. In other instances, as may be seen from the same illustration, the heads themselves disappear and only stripes remain; the bills which are placed one above another cover the whole surface of the hat.

The hats produced by the Aleut in a later period show a crystallized decorative style consisting almost exclusively of colored stripes executed carelessly with oil paint.[110] The gradual fusion of heads and their disappearance is shown on Pl.V, Figs. 9–16, obtained from different hats in the M. A. E. collection. Pl. V, Figs. 4, 5, 6, and 7 give a conception of the evolution of another type of composition of bird heads, their beaks turned toward each other and converging gradually into mere spirals of the type shown in Pl. V, Fig. 7. The arrangement of these spirals in pairs on the end of one of these hats is seen in Pl. V, Fig. 8.

In comparing these heads with those in bone made for their hats by the Eskimo, we notice an increase of bird heads on the Aleutian hats (among the Eskimo there are but two) to cover the whole surface; however, in the ear region the number of heads has decreased to one. The frame is lacking here. The investigators have already marked the originality of the particular style of Aleutian hat painting which attained special conventional form: the presentation of bird heads and the application of many colors. The style is characterized by the covering of the entire surface of the hat with colored spots which alternate with many colored stripes lying close to each other; all the elements obey the law of symmetry which is strictly carried out on all hat samples. From a stylistic point of view, this painting has no analogy, standing isolated among the artistic painting of primitive peoples of all continents.[111]

The samples described above do not exhaust the wealth of Aleutian polychrome painting and the creative ability in painting. On the same hats we find little scenes of an epic character which illustrate different phases of animal hunting, and of housework and Aleutian religious and mythological conceptions. Such motives are not found on all hats. On account of the special value and interest of this material, we have tried to gather in the plates all available data which is found in the collections of M. A. E. and the Central Ethnographic Museum in Moscow (Pl. IX).[112] In contrast to the large bird heads, these motives are worked out in the shape of miniature figures of men, animals, and many objects of Aleutian material culture. Again, in contradiction to the other painting, this art is conspicuous for its strict realism, thus being related to the Eskimo bone carvings in miniature (such as pipes, bowdrills, etc.). This type of art is quite unknown to the Tlingit.[113]

---

[110] Such hats were made not long ago by the Aleut for commercial purposes and were sold to tourists of the Aleutian Islands. One such sample is in the Central Museum of Ethnology in Moscow.

[111] This vari-colored and striped painting can only be compared with the polychrome Egyptian sarcophagus.

Like the Eskimo, the Aleut represent animals and men in silhouette, but with this difference: among the Eskimo the majority of figures is executed in black; among the Aleut we find, in addition, red (brick), green, yellow (ocher) and gray. Secondly, among the Aleut there appear polychrome figures and scenes. Thus, a gray figure holds a red spear, a red figure has gray hair, a black whale has red eyes, etc. We shall dwell on this topic when describing the separate scenes. Thirdly, the figures often reach large dimensions which are rarely encountered among the Eskimo. Thus, we find among the Aleut not only a dexterity similar to the Eskimo, but a special Aleutian art revealing a great love for colors in miniature compositions.

The themes may be classified as follows:—

a. Aleut hunting forest animals on land, with arrows, throwing spears, harpoons, etc.
b. Aleutian hunters sitting in boats wearing wooden hats and armed with spears.
c. Common scenes of hunting various sea animals.
d. Aleut housework.
e. Various animals on sea and land.
f. Birds.
g. Mythical animals and birds.

While some of these figures are scattered at random over the surface of the hat others are either elongated into a frieze, placed in special corners, or, in medallions.

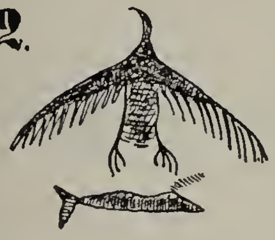
Let us study the individual figures and scenes. There are scenes of hunting forest animals on only two hats. On the Moscow sample may be seen a horned deer colored yellow (Pl. IX, Fig. 3). It is placed in the upper left section, surrounded by six deer of smaller size which lack antlers; one of them being black (Pl. IX, Fig. 3). Were it not for the short tails, they might be taken for wolves. On another hat (M. A. E.) are hunting scenes in which the deer is pursued with a bow (Pl. VII, Figs. 9 and 10). The figures are black and are more successful from the anatomical point of view. The figure of the hunter

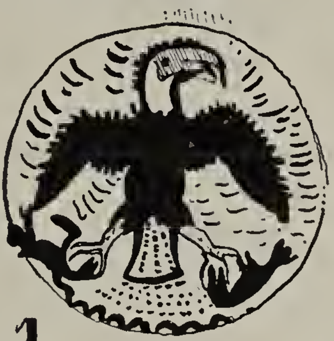
---

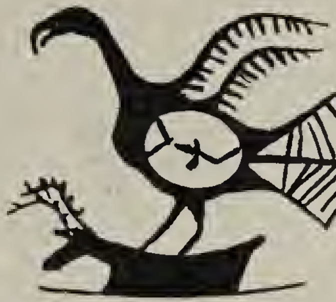
[112] I take this occasion to express my deep gratitude to the Museum through its director, Professor B. M. Sokolov, who granted me permission to publish one remarkable ancient painting on an Aleutian hat.

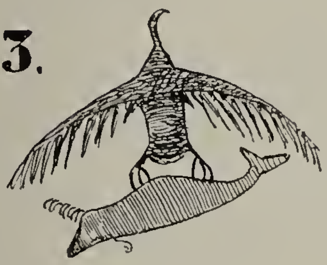
[113] Compare with the Eskimo scenes, quoted by Hoffman, on Plates 60, 67, 70, 71, 73, and others.

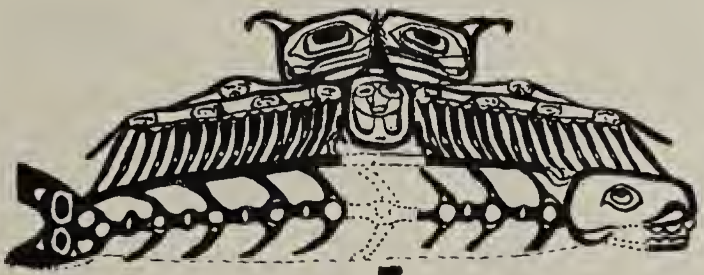
PL. VI

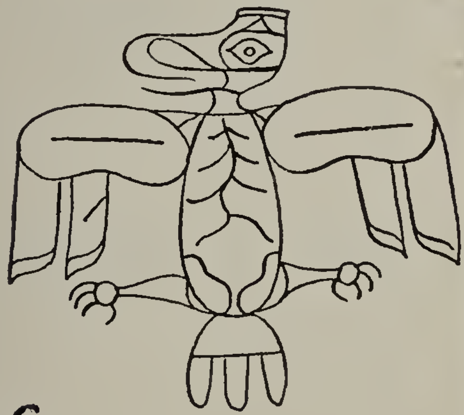












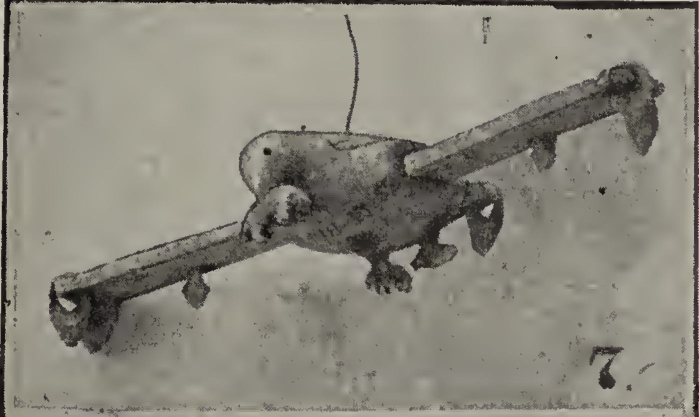


Fig. 1. representation of an eagle on an aleutian hat. m. a. e. no. 2868–40
Figs. 2–3. image of a thunderbird, eskimo. after hoffman.
Fig. 4. thunderbird, bering sea eskimo. after hoffman.
Fig. 5. representation of a thunderbird on a kwakiutl house. after mallery.
Fig. 6. representation of a thunderbird, haida. after mallery.
Fig. 7. representation of an eagle (?) made of bone, kerek, northeast asia. m. a. e. no. 444–37/83.

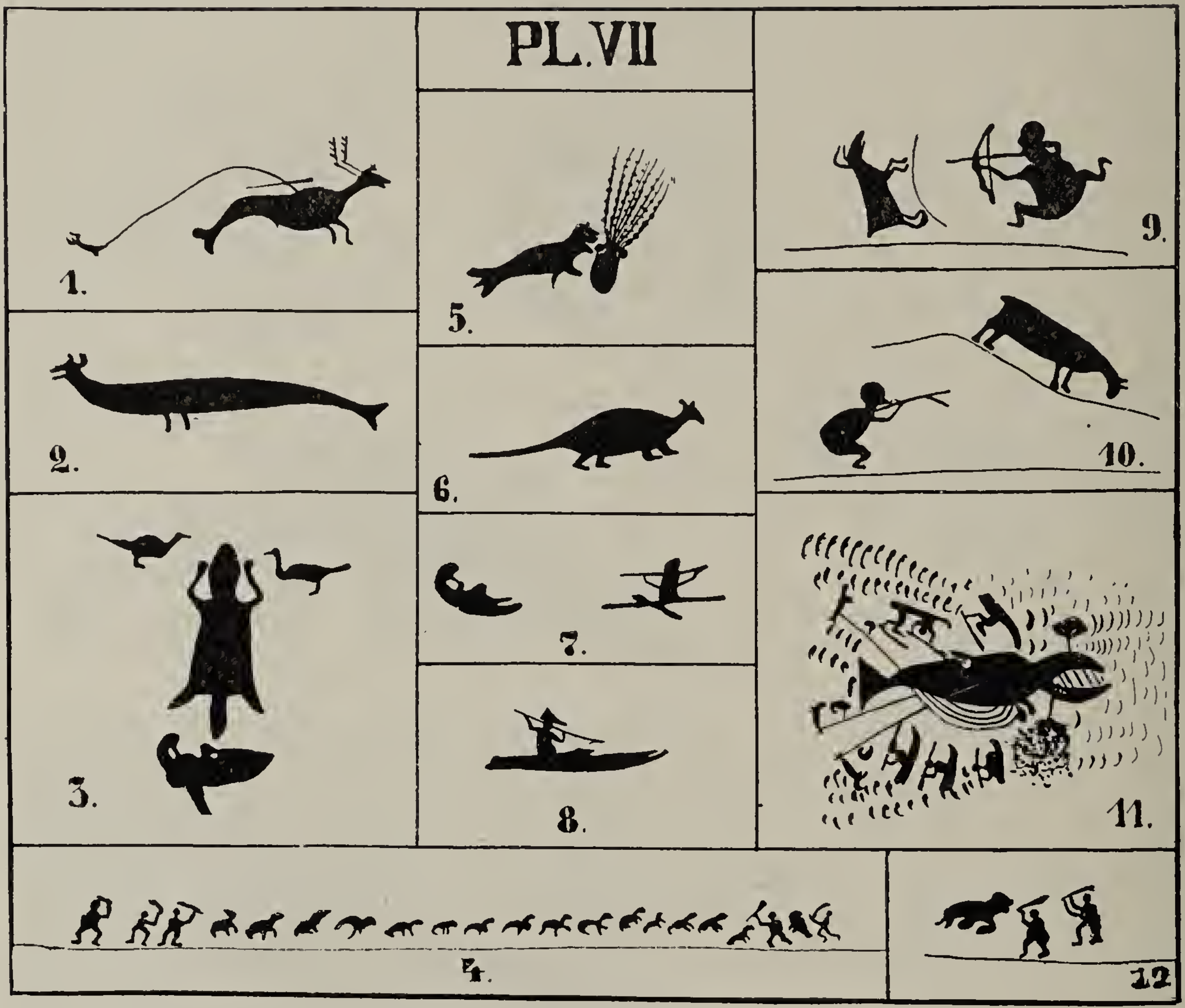


FIG. 1. MYTHIC DOLPHIN-DEER, ESKIMO. AFTER NELSON.
FIG. 2. MYTHIC ANIMAL ON WOODEN HAT, KONJAG, KATMAI, ALASKA. M. A. E. 593–16.
FIG. 3. SEA-OTTERS. M. A. E. 563–1.
FIG. 4. KILLING OF THE SEA-BEARS. M. A. E. 2868–40.
FIG. 5. A SEA-OTTER SEIZING A POLYP. CENTRAL MUSEUM OF ETHNOGRAPHY IN MOSCOW NO. 524.
FIG. 6. OTTER. CENTRAL MUSEUM OF ETHNOGRAPHY IN MOSCOW. NO. 524.
FIG. 7. SEA-OTTER HUNTING. M. A. E. 563–1.
FIG. 8. AN ALEUT IN A BOAT. CENTRAL MUSEUM OF ETHNOGRAPHY IN MOSCOW. NO. 524.
FIGS. 9–10. DEER HUNTING. M. A. E. 2868–40.
FIG. 11. COMMUNAL WHALE HUNTING. M. A. E. 2868–40.
FIG. 12. ADULT SEA-BEAR HUNTING. M. A. E. 2868–40.

is especially good (Pl. VII, Fig. 9). He is pictured in a difficult and original pose of a man about to sit down, the back being turned to the observer. This is a very rare posture in primitive art. We do not venture to designate the animal hunted by the bow-carrying Aleut occupying the upper right angle of the Moscow hat (Pl. IX, Fig. 3). Here the hunter's pose is also very original. Both, hunter and animal, are in green, approaching copper color; the animal's protruding tongue is red. On the left side of the same hat is a scene in which a hunter is preparing to stun a porcupine with a club (Pl. IX, Fig. 3). The color of the figure is greenish black. The hunter's figure is no less successful. Again the difficult pose must be emphasized: the shoulders and chest in front view, the head turned backward, the legs in profile, with the feet directed frontward. This scene is adjacent to another: a hunter is about to hurl his harpoon at a seal (Pl. IX, Fig. 3). The figures are red, but the man's head is black. On the other side of the hat is an analogous scene containing two hunters with harpoons and one seal (Pl. IX, Fig. 3). The hunter in front is in dark gray with a red harpoon, the one in the rear, red with gray hair. The figures are dressed in some short cloth. The smaller one has a very successful pose of the left leg.

On another hat of the M. A. E. are scenes of hunts for web-footed animals (Pl. IX, Fig. 4). In front on the right, two men armed with clubs attack an adult sea-bear. This scene is pictured once more separately on Pl. VII, Fig. 12. The figures are black. At the left, four hunters are killing a big walrus, that is bleeding to death; the blood is colored red, whereas all the figures are black. On the edges of the hat are elongated friezes on which there are exceedingly interesting scenes of the killing of sea-bear. At the left are seven men with clubs and twenty-four sea-bear that are chased by the hunters towards the killing place (Pl. VII, Fig. 4; Pl. IX, Fig. 4).[114] The center of the scene illustrates the slaughtering. There is much movement and life in the hunters' figures. On the left is another scene containing a smaller number of figures. Here, too, sea-bear are hunted, and two people chase the female to the side, as actually happens in reality (Pl. IX, Fig. 4). On both friezes the figures are black.

There are several hats with sea hunting scenes. On the Moscow example may be seen an Aleut painted in red with astonishing accuracy; he sits in a *baidara* and holds a spear ready to hurl (See Pl. VII, Fig. 8; Pl. IX, Fig. 3). This hunter, as well as all the others sitting in the *baidara,* wear the cone-shaped hunters' hats (we saw that the hunters on land did not have such hats). Similar figures are scattered over the front of the hat. They are black, but the harpoons and lines used to drag the animals are red. A number of single black *baidaras* with hunters carrying spears and lines colored yellow in their hands are also on the hat of M. A. E. Pl. VII, Fig. 7 and Pl. IX, Fig. 2, depict a sea-otter hunt. This is the only drawing on which the *baidara* is provided with an oar.

We see also on the same hat a communal hunt of sea animals. In the lower left hand section of the hat four hunters throw their harpoons at a sea-otter. The harpoons, lines, and sea-otters are yellow; the *baidara* and hunters are black. Above is another scene showing sea-otter hunting with five hunters. The sea-otters are already dead. The tips of the harpoons to which the lines are fastened penetrate the bodies; the other ends of the line are tied to the harpoons. This is done in accordance with Veniaminov's[115] description, thus proving the realistic tendency of this art. We observe the same on the other half of the hat. In the center of the medallion on the Moscow hat sea-otter hunting is illustrated especially clearly (Pl. IX, Fig. 3). When the Aleutian hunters find a sea-otter they surround him and gradually close in on him. The moment of closing the circle was depicted by the artist. There are on the picture twenty-four *baidaras;* one of them has two hatches. In the center is the outspread figure of the sea-otter pierced with many spears. The hunt is over, and many *baidaras* are turning their poops towards the animal. This vivid scene is strikingly successful. On the same hat, below, three *baidaras* drag a dead whale, on whose back the tips of spears or harpoons may be noted. In Pl. IX, Fig. 2 are also scenes showing whale hunting; one of the whales is dragged by three *baidaras* arranged in a row. But the most remarkable scene depicting the whale hunt (striped whale) is to be found on the hat shown in Pl. IX, Fig. 4. The scene is presented in front view and is reproduced separately on Pl. VII, Fig. 11. The Aleutian love for polychrome treatment and their aptitude to handle it skilfully is here fully expressed. In the center is a gigantic whale surrounded by five *baidaras;* the whale, the hunters and *baidaras* are black. The whale drags behind him three web-footed animals tied to the line; presumably these are the bait.[116] One of the hunters has injured the animal in the back. The whale actually bleeds to death; there is blood on the spine, blood spurts from the mouth, the effect is especially vivid due to the red color. The artist evidently uses this color to emphasize the effect; even the water, which is suggested by means of curved lines behind the whale, is painted red. In front, however, the water is indicated by slight blue dashes. The bloody trace in the water and all the other details lead us to regard this image as representative of the product of the primitive naturalistic Aleutian painter. Nothing of this kind is encountered among the Eskimo. Only among the Indians who also use paint to indicate blood, etc., do we find analogous scenes, especially in their pictographic letters. Garrick Mallery, in his detailed work,[117] has in his Pl. XXII very interesting illustrations taken from fragments of a Dakota chronicle, which has been compiled by an Indian, Battiste Gude. Among other illustrations we find here a dark buffalo cow with an arrow stuck in its back. Blood pours, in brilliant red, down the back and from the mouth. The background, too, shows blood traces. Both products, the Dakota and Aleut, are artistically equivalent.

---

[114] This scene is a wonderful illustration of the description given by Veniaminov, Part II, p. 362 of the hunting and killing of sea-bears.

There is only one hat with a scene illustrating Aleutian house life (Pl. IX, Fig. 4). There are black drying racks with red meat, a house with smoke rising from the smoke-hole and some Aleut working. Above the medallion (Pl. IX, Fig. 3) are spread two sealskins interpreted on the basis of their spots.

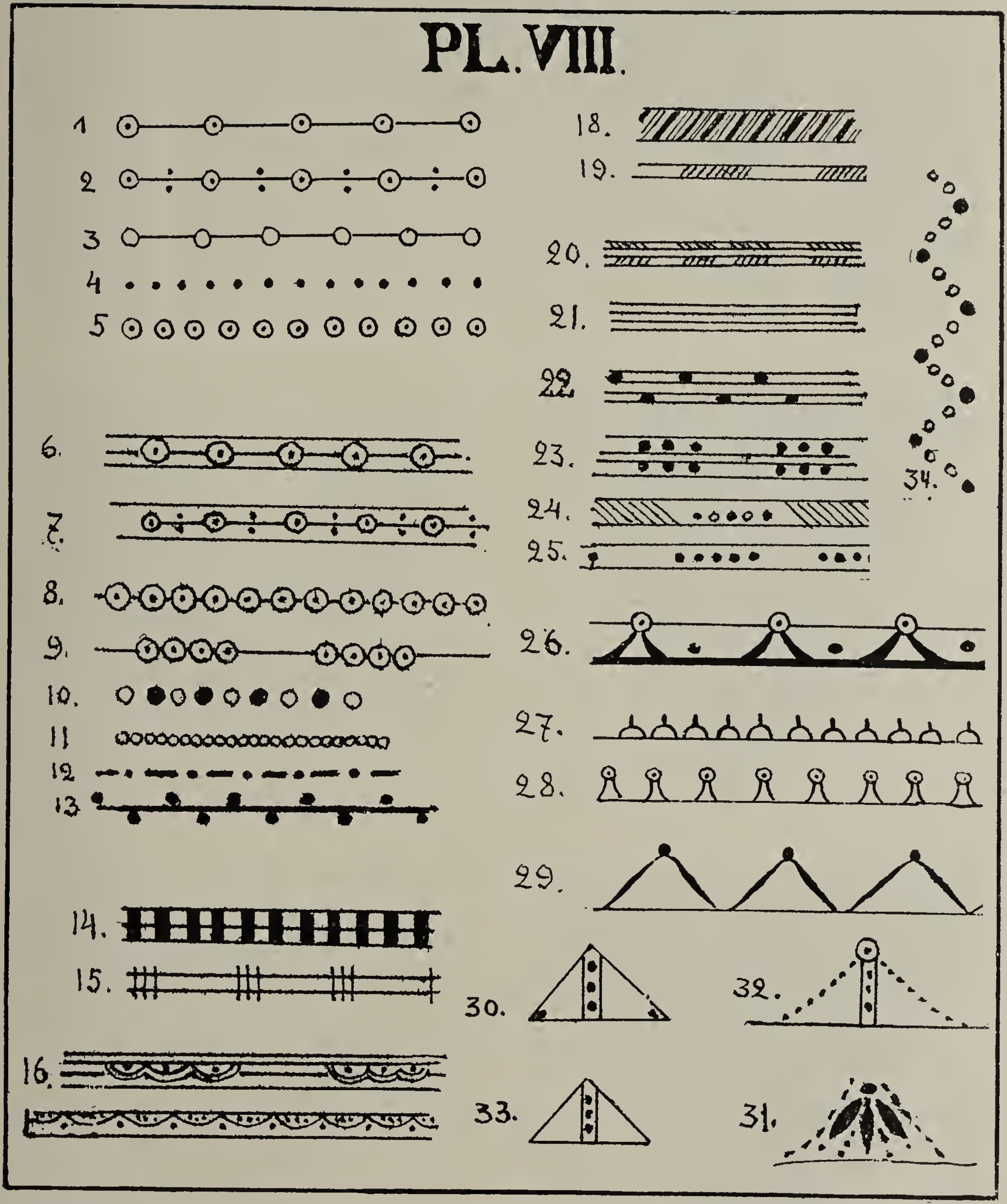
Sea animals—cachalot, striped-whales, killer-whales, etc.—are to be found in great numbers on the hat in Pl. IX, Fig. 2 and on the Moscow sample. On both hats are also groups representing an attack upon whales of killer-whales. On

---

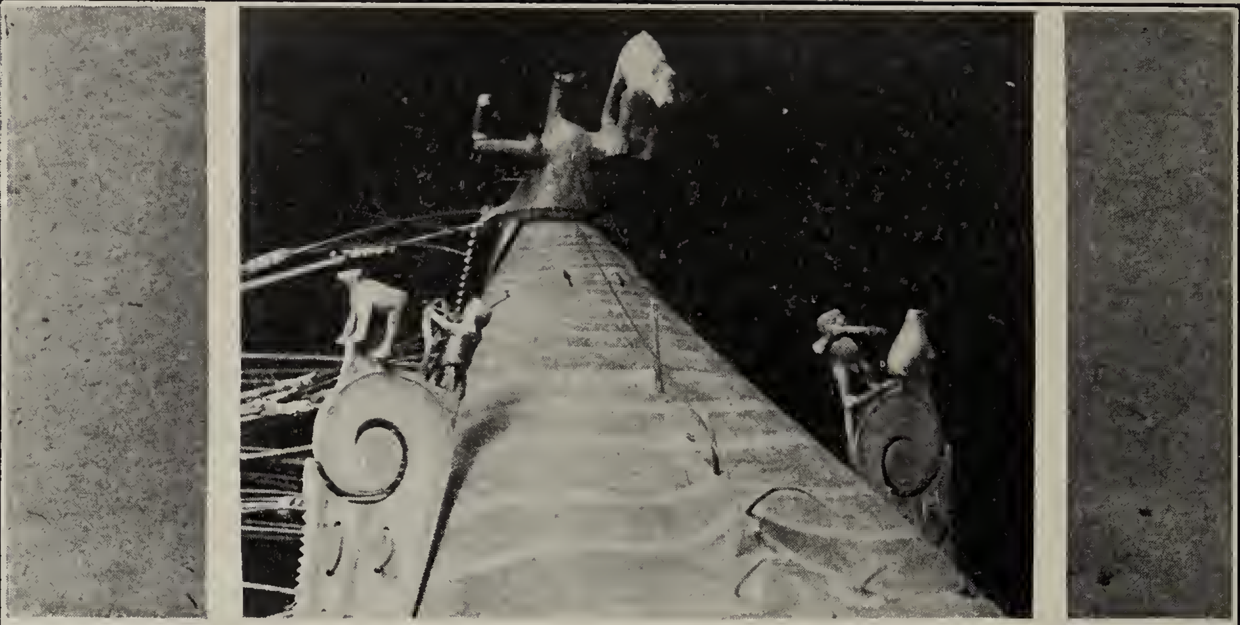
[115] Veniaminov, Part II, p. 247. At the wooden part, the line is divided in two, so that when the injured game escapes, the harpoon is dragged along in a transverse position and the animal's movements.

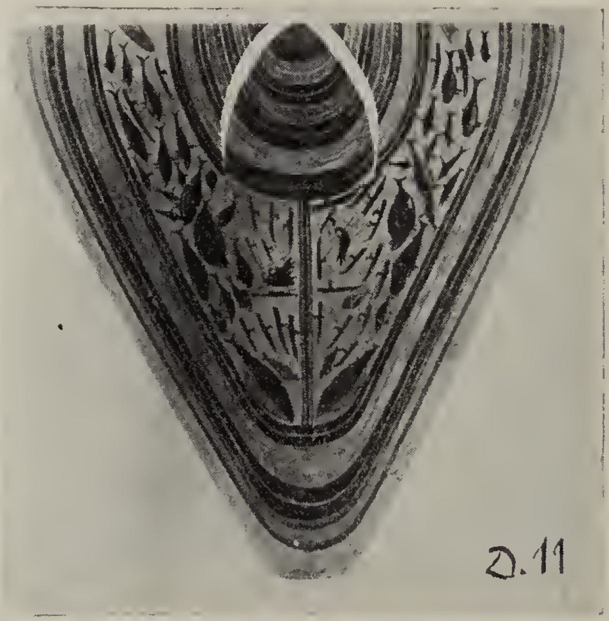
[116] The skin of a young seal inflated with air which is sometimes used as a float.

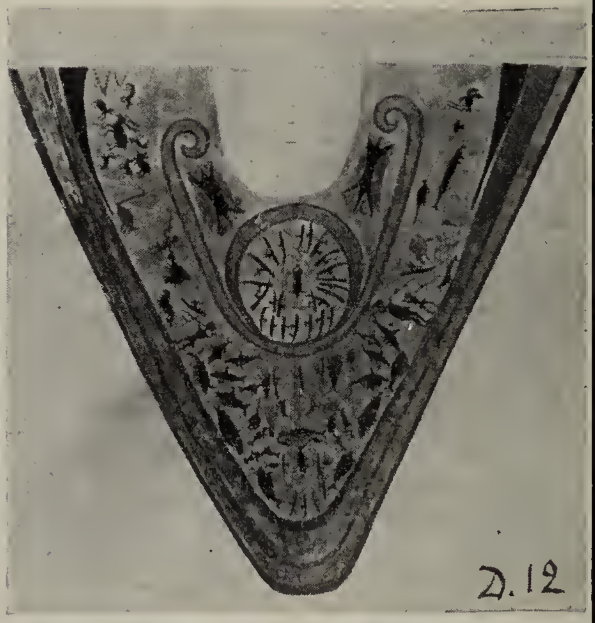
[117] Mallery, G., *Picture-writing of the American Indians*, see above, p. 287 et. seq.

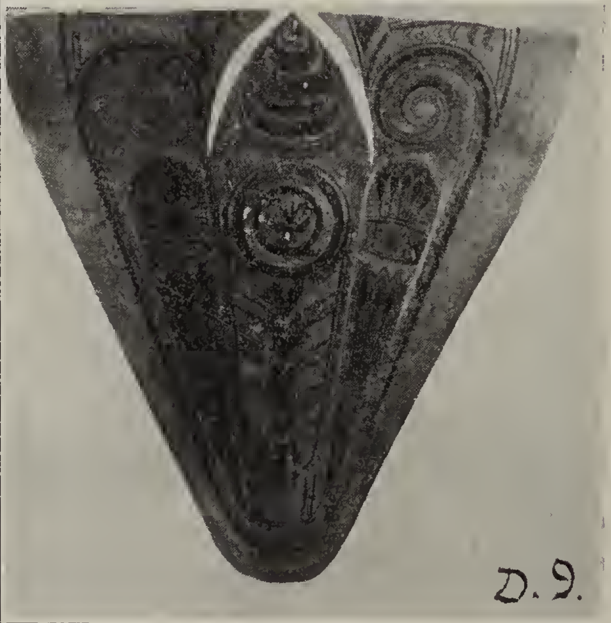

PL. VIII.
1
2
3
4
5
6.
7.
8.
9.
10.
11
12
13
14.
15.
16.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.

GEOMETRICAL MOTIVES ON ALEUTIAN WOODEN HUNTING HATS IN THE COLLECTIONS OF THE MUSEUM OF ANTHROPOLOGY AND ETHNOGRAPHY OF THE ACADEMY OF SCIENCES OF U. S. S. R.









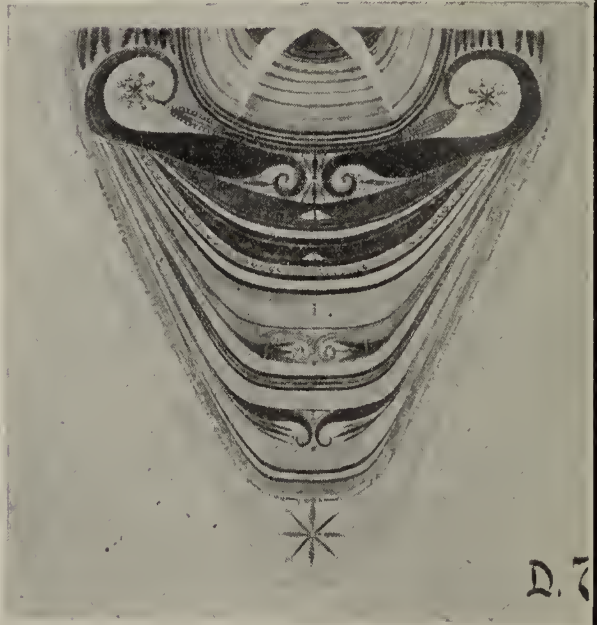


FIG. 1. TOP OF AN ALEUTIAN WOODEN HUNTING HAT WITH SIDE PLATES CARVED IN BONE AND WITH A BONE BACK PLATE. M. A. E. NO. 2868–84.

FIG. 2. PAINTING ON AN ALEUTIAN WOODEN HUNTING HAT. M. A. E. NO. 1323.

FIG. 3. PAINTING ON AN ALEUTIAN WOODEN HAT. CENTRAL MUSEUM OF ETHNOGRAPHY IN MOSCOW, NO. IV–524.

FIG. 4. PAINTING ON AN ALEUTIAN WOODEN HAT. M. A. E NO. 2868–40.

FIG. 5. PAINTING ON AN ALEUTIAN WOODEN HAT. M. A. E. NO. 2868–106.

Pl. VII, Fig. 6 is the image of an otter. On Fig. 3 of the same plate are two sea-otters; one is pictured from above (swimming?), the other is on its back, a characteristic pose for the sea-otter. Possibly this is a female sea-otter holding a young one on her abdomen, this being a motive which is very frequently found in the Aleutian-Eskimo sculpture, both in wood and in bone. In Pl. IX, Fig. 3 are shown also sea-otters devouring cuttle-fish.[118] This motive does not reappear again on any hat. The two lower sea-otters are black, the upper ones green. The cuttle-fish and polyps are painted in red (brick color) and have black eyes. One such scene with a polyp is shown separately in Pl. VII, Fig. 5.

All the animals described are Aleutian game of great economic significance. Their symbolic or religio-magic significance is, therefore, undoubted. These images were also necessary to attract game and assure success in the same fashion as the hat-masks.

There are but few bird pictures. On Pl. IX, Fig. 3 is a goose (possibly a cormorant). Below, among the sea animals, are two black silhouettes of birds, similar to cormorants; and above, on the right, two soaring eagles, also treated as silhouettes. Two sea birds are above the sea-otters on Pl. VII, Fig. 3.

As for mythological birds, there is only one on the Aleutian hats, placed in the medallion in Pl. IX, Fig. 4. It has all the attributes of the Thunderbird (a colossal eagle). It is reproduced separately on Pl. VI, Fig. 1. The bird's wings are outspread widely. It flies over the water, as is indicated by the lines conveying the conception of waves. These are in red; from which we may conclude that the water under the bird is stained with blood. The bird itself is also daubed all over with blood; the upper part of the beak as well as the claws are in red. The eagle holds some animal in one claw, in the other a man (?). The man, the animal, the eagle's body and wings are black, the neck is white. That we are not dealing with an ordinary eagle, but with the thunderbird is shown by the large figures in its claws. This motive and its myths are known to many American people and is found in art from the west shore of Alaska to Peru, where it can be seen on pottery. The thunderbird occurs on various objects and most frequently holds some animal in his claws. For comparison, we show a few examples of the thunderbird motive in Pl. VI. Figs. 2 and 3 are taken from a bone support of an Eskimo harpoon (published by Hoffman). On both pictures the bird is larger than the whale he is hunting. The thunderbird's customs vary according to the environment. Thus, the Bering Sea Eskimo say that he thrives on whales; but the population of Norton Bay claims that the thunderbird eats deer also.[119] Pl. VI, Fig. 4 illustrates this last version. People living on the lower Yukon relate that this bird not only hunts deer but man.[120] Thus, this narrative from the lower Yukon is the nearest interpretation of the motive on the Aleutian hat on which presumably a man and a deer are held in the eagle's claws. Hoffman notes that the Eskimo thunderbird resembles in form the Algonkin pictographs and somehow does not seem related to the art of Alaska and apparently has a non-Eskimo character.[121] Indeed the image of the thunderbird is met with most often among the various Indian tribes. In Pl. VI, Fig. 5 we see the thunderbird drawn on the wall of a Kwakiutl house. The bird's wings are outspread, as in the Eskimo example (Figs. 2 and 3). This bird holds a whale in its claws. Except for the difference in style, these drawings are very similar to each other. On Pl. VI, Fig. 6 is reproduced the tattooing from the back of a Haida, which also represents the thunderbird. In the book of G. Mallery, one may find several images of the thunderbird among the Dakota tribe.

---

[118] As known, the cuttle-fish is the sea-otter's main food.

[118a] Shurz, G., *History of Primitive Culture*, St. Petersburg, 1907, p. 598. The illustration of a Peruvian vessel is on p. 375.

[119] Nelson, *op. cit.*, p. 446.

[120] *Ibid.*, p. 446.

On the Asiatic shore, among the bone carvings of the Koryak and Kerek, may be found the flying eagle, carrying in his beak and in both claws an animal or a fish. Jochelson states that we are dealing with an eagle.[122] Though there is no evidence in the literature that this is the thunderbird, there is one fact permitting us to assume that in the Koryak sample it is the thunderbird. In addition to the similarity of Koryak figures to those of the Indian-Eskimo, one of the Koryak birds (an eagle) in the M. A. E. collection holds in its beak an animal resembling a bear. Considering the realistic tendency characteristic in the art of the Koryak, we believe that this similarity is not accidental and that a bear is actually represented. If this is so, the thunderbird motive was also known on the Asiatic coast. Pl. VI, Fig. 7 gives the Koryak conception of this bird.[123]

Various beliefs are linked with the thunderbird, but all of them are in one way or another connected with the heavens, sun or storm. The Northwest Coast Indians hear the sound of this bird's wings in the thunder.[124] The Sioux also think that the thunder is a large bird;[125] and the ancient Aztec called the sun either a soaring or descending eagle.[126] Perhaps the Aleut have seen in the eagle one of the personifications of the sun; but Veniaminov[127] tells of remnants of the worship of light. The Chukchee even sacrifice to the thunderstorm and rain.[128]

The connection between the thunderbird and the hunt is especially interesting to us. In the Dakota pictographic calendar is pictured a hunter who thinks of the thunder, and who has received an arrow from the thunderbird. Only after a buffalo cow, which personifies the woman of the myth and is the protector of the tribe, has been killed with that arrow, is the communal buffalo hunt started.[129] We understand that among some Indian tribes the thunderbird aided in the hunt and was the hunter's guardian spirit. It is not surprising that we find its image on parts of harpoons of the Eskimo and on hunter's hats among the Aleut.

On headgear from the Katmai settlement in Alaska is an animal reproduced on Pl. VII, Fig. 2 (for the headgear see Pl. III, Fig. 6). We did not find such images among the Aleut though they are neighbors of the Konjag. This figure is

---

[121] Hoffman, *op. cit.*, p. 446.

[122] Jochelson, *op. cit.*, p. 661. Compare Fig. 177c, Figs. 673, 674, 676, and others.

[123] These figures are now used as toys.

[124] Adam, *op. cit.*, p. 9.

[125] Mallery, *op. cit.*, p. 483.

[126] Krickeberg, *op. cit.*, p. 148.

[127] Veniaminov, Part II, pp. 119–125.

[128] Kühn, *Die Kunst der Primitiven*, München, 1923, p. 42.

[129] Mallery, *op. cit.*, p. 292.

11½ centimeters long; it is an animal with a snout and a very long body ending in a two-forked tail. Both front paws can be recognized. No doubt this is a mythological animal. Its nearest analogy is found in an Eskimo representation of the Orca gladiator, killer-whale. The Eskimo of Bering Sea believe that this ferocious white dolphin when on land transforms himself into a deer. A similar, but black dolphin, changes into a wolf. On their own volition they may become dolphins again. The Eskimo say that they are very violent and kill men.[130] On Pl. VII, Fig. 1, taken from Nelson, is an Orca gladiator, already transformed into a deer. When comparing it with one of the Konjag (Pl. VII, Fig. 2), the wolf's features of the transformed dolphin can be identified. Bogoras states that the Chukchee also believe in sea monsters, which may change into wolves and which even attack giants.[131] Similar conceptions have been reported among Northwest Coast Indians. According to Adam, they know of a sea monster that is a combination of a bear and a whale.[132] Thus the image of the Konjag, cited by us, belongs to the cycle of beliefs connected with the dolphin that metamorphoses; and being the only one on the Konjag hats of M. A. E. it deserves special attention.

There are no other motives except those described above on the Aleut and Konjag hats of the M. A. E.

Geometric ornament also entered into the Aleutian painting, and is found on the bone ear plates as well as on other products, as, for example, on bone boxes. The various forms of this ornament are taken from separate hats and give a full conception of its elements and combinations (Pl. VIII). It is a purely Eskimo art in character, not confined to the western Eskimo but known among the eastern Eskimo tribes as well. It is scarcely found on the Asiatic shore, and not often among the Indian tribes. We may confine certain of the samples in this study to definite geographic points. We can do this on the basis of the analysis of motives which are treated realistically. Some of the animals occurring in the paintings are not encountered on all Aleutian Islands, but only on a few. For example, the hat with the sea-bear hunting scene (Pl. IX, Fig. 4) may be viewed as being derived from the Pribiloff Islands, this being the place where sea-bears are found in great numbers (especially on Paul Island). All hats with deer images come from Alaska on the nearby islands (Pl. IX, Fig. 3). The images of porcupines and walrus indicate they are also from Alaska. The hat that is almost completely covered with whale figures was probably made on Unalaska, where whales are abundant, according to Veniaminov (Pl. IX, Fig. 2).

In summarizing this review of Aleutian hats, we conclude that there exists an independent, original art which has absorbed and remodeled, in accordance with its own character, different traditions and influences. From the Indians it received the polychrome art and the definite arrangement of colors, the form of headgear-masks, feathers, etc. From the Eskimo it received geometric ornament, the knowledge of bone work, miniature epic scenes of housework and sea hunting, realistic art, etc. Aleutian art may, to a certain extent, be correlated with that of the Chukchee-Koryak. But the Aleut, nevertheless, were not simply imitators. Their unusually rich art worked out new motives, a special Aleutian style, and was on the road to great artistic achievements (polychrome art), which unfortunately was shattered by the arrival of Europeans and soon disappeared.

---

[130] Nelson, *op. cit.*, p. 444.

[131] Bogoras, *op. cit.*, p. 57.

[132] Adam, *op. cit.*, p. 21, illustration 2 below.

Our task was to explain the significance of different forms of headgear and its decoration, to find their origin, to show their development, and to determine the place Aleutian art occupies among the painted products of the Paleoasiatics and Indians.

Many problems which are of special interest were omitted intentionally, as, for example, the original conception of perspective by the Aleutian artist, the presentation of the human figure, etc. To elucidate such problems material for a comparative study to be derived from different sources must be compiled. This was not our intention in the present paper.

Museum of Anthropology and Ethnography,
Academy of Sciences,
Leningrad.

THE MODERN GROWTH OF THE TOTEM POLE ON THE NORTHWEST COAST

By Marius Barbeau

TOTEM poles were once a characteristic form of plastic art among the tribes of the Northwest Coast, in British Columbia, and southern Alaska. The natives took pride in them and strained every nerve to make them worthy symbols of their own social standing and achievements. And they were discriminating judges of the qualities of a carver's work.

This art now belongs to the past. Ancient customs and racial stamina are on the wane everywhere, even in their former strongholds. Totem poles are no longer made. Many of them have fallen from old age; they have decayed and disappeared. Some have been sold, cut down, and removed to museums or public parks. Others have been destroyed by the owners themselves in the course of hysterical revivals under the spurious banner of Christianity.

The poles, as a rule, face the water front. They stand apart from each other, usually in front of the owner's lodge, and dot the whole length of the village in an irregular row. Their height ranges from ten to sixty feet. They were carved from large cedar trees, carefully selected, sometimes hauled from a long distance, and erected in commemoration of the dead, in the course of elaborate ceremonials. Now that the villagers have moved to new quarters, to keep up with the times, the poles seem forsaken in the old deserted abodes of the past, among cabins where some of the natives casually smoke salmon in the summer.

It is a mistake to say, as is often done irresponsibly, that totem poles are hundreds of years old. They could not be, from the nature of materials and climatic conditions. A green cedar cut and re-set in the ground without preservatives, cannot stand upright far beyond fifty or sixty years on the upper Skeena, where precipitation is moderate and the soil usually consists of gravel and sand. Along the coast, it seldom can endure the intense moisture that prevails most of the year and the muskeg foundation much more than forty years. The totem poles of Port Simpson, for instance, all decayed first on the south side, which is exposed to warm rainy winds; and most of them tumbled to the ground in less than forty years.

Thus it has come about that the oldest poles of the Gitksan of the upper Skeena count among the earliest relics of the kind still in existence. Many of them, for that reason, are of an archaic type and quite crude; and they fairly represent some of the past stages in the evolution of this native art.

The pole was left to stand as many years as nature unaided would permit. Sometimes two or three poles belong to the same family and commemorate the same name as borne in as many succeeding generations. They as a rule stand side by side in front of the owner's house. It is not the custom to mend or transplant a pole, however precarious its condition. Once fallen, the pole is pushed aside, if it is in the way, and decays gradually or is cut up and burnt as firewood.

The art of carving poles is not really as ancient as is generally believed. Its growth to its present proportions is largely confined to the nineteenth century, this is, after the traders had introduced European tools, the steel ax, the adze, and the curved knife in large numbers among the natives. The lack of suitable tools, wealth, and leisure in earlier times precluded the existence of elaborate structures. The benefits that accrued from the fur trade, besides, stimulated ambitions and rivalries between the leading families. Their only desire was to outdo the others in wealth and display of prestige. The totem pole became, after 1830, the fashionable way of showing one's power and crests, while commemorating the dead or decorating the houses. The size of the pole and the beauty of its imagery published abroad the fame of those it represented.

The native accounts of what the earliest carved poles were on the Skeena and the oldest specimens inevitably lead to the conclusion that carved house-front poles and house-corner posts were introduced first, many years before detached memorial columns to honor the dead became the fashion. But this style of house decoration was superseded as soon as the natives gave up building large communal lodges of the purely native type and memorial columns standing away from the houses became the new fashion. It is fairly safe to say that none of these monuments existed on the upper Skeena before 1840.

Internal evidence tells the same tale. The technique of carving on several of the old poles is self-revealing, particularly as it discloses anterior stages in the art. It is essentially the technique of making masks or of carving small detached objects or again, of representing masked and costumed performers as they appeared in festivals rather than the real animals or objects as they exist in nature.

We can say, from evidence not adduced here, that the Nass River people made totem poles at an earlier period than the upper Skeena tribes. Many families on both sides were mutually related. Several of the Gitwinlkul villagers, a Gitksan tribe of the Skeena basin, have their hunting grounds on the upper Nass. And the Gitksan used to travel every spring to the lower Nass for *ulaken* fishing or to trade pelts or dried fruit in cakes with the coast tribes. A strong cultural influence from the more progressive tribes of the coast thus resulted in the course of time. It is, besides, a trait of all those aborigines that they were keen and gifted imitators, and fond of novelty.

The Tsimshian of the lower Skeena, on the other hand, never were addicted to the art of carving totem poles. When they were moved long ago to commemorate an historical event of first magnitude, they erected a tall slab of stone—not a totem pole as they would have done nearer our times—which still stands at the Gitsalas canyon, at the former village of Gitksedzawrh, in the north of the river. Only a few poles ever stood in their ten villages—two or three in as many places—with the exception of Gitsalas, the canyon. Three houses there had carved house-posts; and one of these may have contained eight. There are, besides, less than ten tall poles on both sides of the canyon, some of which have fallen and partly decayed. The carvings at Gitsalas may be traced back to the influence of the Gitksan and indirectly, the Nisræ. The poles erected at the Tsimshian village of Port Simpson, which was established by the Hudson's Bay Company in 1833, have mostly all decayed or been destroyed. Yet they were all erected after 1857, since an early painting of "Fort Simpson in 1857" and reproduced in Arctander's *Apostle of Alaska* (p. 53) contains no trace of a totem pole.

If the Tsimshian as a body were not swayed by the modern fashion of erecting carved memorials to their dead, they retained until fairly late the older custom of painting their heraldic symbols in native pigments on the front of their houses. While not a single totem pole seems ever to have stood in the village of Gitsees, near the mouth of the Skeena, five house-front paintings were still clearly remembered and described to us a few years ago. And we were told that many houses in the other neighboring tribes were decorated in this style, which at one time may have been fairly general all along the coast. To use the words of our best Tsimshian informant, Nees-yaranæt, "There were more paintings than poles in the early days. This was true also among the Gitrhahla (on Porcher Island). Of the two kinds, the house-front paintings (*neksugyet*) were the most important; they were the real crest boards. The poles (*ptsœn*) were merely commemorative."

The remarkable West Coast custom of carving and erecting house poles and tall mortuary columns or of painting coat-of-arms on house-fronts is sufficiently uniform in type to suggest that it originated in a single center and hence spread in various directions. Its frontiers coincide with those of the West Coast art proper, which embraces the carving or painting of wood, leather, stone, bone, or ivory.

This art itself seems much more ancient in some of its smaller forms than in its larger ones. Its origin on the Northwest Coast is remote. It goes back to prehistoric times. It was already in existence and fully mature and quite as conventionalized as it is today, at the time of the early Spanish, English, and French explorers (1775–1800). The carved dish and the Raven head on a horn ladle observed by Dixon, about 1785, are substantially like those that were carved later, in the nineteenth century, and found in our museums. Most of the early circumnavigators—Cook, Dixon, Meares, Vancouver, Marchand, and la Pérouse—give ample evidence that masks, chests, and ceremonial objects were, at the end of the last century, decorated in the style now familiar to us. They also sometimes mention that house-fronts were ornamented with painted designs. In a drawing reproduced in Vancouver's *A Voyage of Discovery . . .*, at least eighteen out of about twenty-eight houses in a village in Johnston's Straits were thus decorated.

There is a striking lack of evidence everywhere as to the existence of totem poles proper, that is, of detached funeral memorials, either south or north. Yet several villages of the Tlingit, the Haida, or the Tsimshian, the Kwakiutl, and the Nootka were often visited by mariners in the early days. The verbal descriptions or the sketches that casually appear in some of their records of exploration fail to give us any hint of their presence, still less of their actual appearance. For instance, Dixon examined several of the Haida villages on the Queen Charlotte Islands; yet, there is no mention of totem poles in his records. He, however, described small carved objects, trays and spoons, and left some illustrations.

But there were—from 1780 to 1800—some carved house poles in existence.

Carved house poles and portals were already familiar at the close of the eighteenth century among several of the West Coast tribes. But we find nowhere any mention of totem poles or memorial columns proper. From this we conclude that they did not exist at the time in the villages visited, which have since become so typically their home—those of the Queen Charlotte Islands and the adjacent coast.

The custom of carving and erecting memorial columns to the dead is therefore modern; it may exceed slightly the span of the last century.

These tall monuments, wherever they happen, undoubtedly go back to smaller prototypes. Their elaboration solely depends upon the use of iron and steel tools; in other words, they are post-European. Small ceremonial objects—masks, rattles, charms, trays—were most common everywhere on the coast at the date of our earliest records, while the only larger carvings were house posts, short, stumpy, and crude, that could be seen in some villages and differentiated the houses of the chiefs from the others. And the evolution of this art from smaller to larger carvings repeated itself among the Gitksan, where the technique in the earliest poles is that of mask carving; the figures are carved out of the log as if they were affixed to its surface with wooden pegs.

The simple house poles of the Nootka and the Haida, as described by Cook, Dixon, and Bartlett, are not likely in themselves to represent a form of native art of the stone age in its purely aboriginal state, undisturbed by foreign influences. They were observed from 1775 to 1790. Even at that date iron and copper were found in the possession of the natives; and they were used everywhere as only they could be by expert craftsmen through lifelong habit. The West Coast at that date was no longer unchanged. The Russians had discovered it more than a century before, not merely after Bering had given his name to the Straits, as was supposed until recently. The Spanish, sailing from San Blas, on the west side of the Mexican peninsula, had already left traces of their passage. Moreover, the influence of the French and the English had crossed the continent through contacts between intermediate tribes and the arrival of half-breeds and *coureur-des-bois* west of the mountain ranges. It was presumed by the first regular explorers that metals were introduced early from the eastern trading posts and could be obtained in the course of a normal, continuous system of barter, from hand to hand, between the tribes across the continent.

It appears certain that the Northwest Coast people were accessible to foreign influence for more than two hundred years, to say the least. When estimating the inroads of this influence upon their customs and manual arts, and the rate of its progress, we must also consider how amenable the natives were to this change. The American Indians from the beginning were all more or less adaptable to European culture, and this is what caused the downfall of their own culture, taken as a whole. But nowhere in America did they show more avidity or greater skill to acquire and utilize whatever suited their needs from the sundry goods, tools, or crafts of the white man. They were naturally gifted with a sense of inventiveness and with manual dexterity, as may be seen in the activities of their craftsmen to the present day. These traits were often noted by visitors at various times.

Even before the Russians and other Europeans had any perceptible influence on the natives it is quite possible that iron and foreign objects were casually obtained from the Japanese junks that for several centuries are known to have been wrecked and salvaged on the Northwest Coast. Several junks, with Japanese fishermen aboard still alive, were cast ashore on the coast within historical times, and survivors were kept as slaves by the natives. One of them, a blacksmith in the service of a chief, was observed by explorers and traders at the mouth of the Columbia, about 1808; and two others were purchased from the Haida in 1833, at Port Simpson, and given their freedom.

An influence which may not be without significance in some respects is that of the Kanakas on the Northwest Coast. Little has so far been said about it; yet, some traces of its presence have come to our attention, such as small wooden carvings or statuettes in some of our museums that are undoubtedly of South Sea technique, some customs, and possibly also some manual processes. We may wonder whether the insertion of abalone pearl segments as decoration for wood carving—and this is a notable feature of many of the finest Haida, Tsimshian, and Tlingit carvings—is not to be traced back to this source, since the large deep sea shells themselves were imported, so we understand, from the South Seas in the course of trans-oceanic trade.

A moot point still remains to be considered. Precisely where did the totem poles or mortuary columns first appear and at exactly what moment? The presumptions boil down to two. These heraldic monuments first became the fashion either on the Nass River or among the Haida of the Queen Charlotte Islands. Our evidence, as stated above, eliminates the Gitksan or the Tsimshian proper from among the possibilities. Likewise, the tribes further south cannot be considered. The Bella Bella were painters rather than carvers. The Kwakiutl and the Nootka plastic art always remained very crude, compared with that of the northern nations, and besides, it revelled in grotesque forms by preference. It seldom was at the service of heraldry as in the north; heraldry was of minor import on the coast south of the Skeena. Totem poles among the Kwakiutl and the Nootka are all very recent; not many of them, as they are currently known, may antedate 1880. The most familiar of the Kwakiutl poles, those of Alert Bay, were all carved and erected since 1890. None of them stood at the time when the late C. F. Newcombe visited the village at that date. At first sight, it seems more likely that the Tlingit, of the southern Alaskan frontier, might have initiated the custom of erecting memorials to the dead. They were closer to the Russian headquarters and must have been among the first to obtain iron tools. There is no doubt, besides, that they were most skilful carvers and weavers, through the whole local evolution of these crafts. Yet there are good reasons why the credit for originating totem poles should not fall to their lot. We know that the early circumnavigators who called at some of their villages made no mention of large carvings, not even of such house or grave posts as they observed among the Haida to the south. And this is more conclusive: the custom of erecting these monuments seems modern to a keen and experienced observer of these people, Lieutenant G. T. Emmons, who was stationed on the Alaskan coast for many years in an official capacity. From Lieutenant Emmons we learn that the northern half of the Tlingit nation never had totem poles until very recently; and the few of those that have sprung up in that district within the scope of his observation are the property of a family or families that originally belonged to the southern tribes and have retained their southern affiliations. The custom of erecting poles, in other words, is not typically Tlingit, in so far as it is characteristic only in the southern half of their tribes, those adjacent to the Haida and Nisræ frontiers. Most, if not all the Haida and the Nisræ tribes, on the other hand, were totem pole carvers and owned many poles in each village. The concept is more typically theirs than it is Tlingit.

The Haida might next be dismissed from consideration as likely originators of the art, for the following reasons: The Haida poles, as we know them, are partly house poles and partly totem poles proper; the house poles are far more numerous in proportion among them than among the Tsimshian. Indeed, none of the present Nisræ carvings are house poles. The two large posts observed among the Haida by Bartlett and Marchand, in 1788–1792, were house portals. Though the Haida villages were often visited at the end of the eighteenth and in the first part of the nineteenth century, we find no further reference to large poles, still less to the famous rows of poles at Massett and Skidegate as they were photographed about 1880. The Haida poles, as we know them in our museums and from photographs, or Miss Carr's paintings, are all of the same advanced type of conventionalism, all of the same period—1830–1880—, and all from the hands of carvers that were contemporaries. They were presumably from ten to thirty years old when the Haida became converts to Christianity and, in consequence, gave up their customs, cut down their poles, and sold them to white people, about the year 1890 or afterwards. And it is a common saying, however inaccurate it may be, that the fine row of poles in one of their best known towns had risen from the proceeds of an inglorious type of barter in Victoria. There is no evidence of mortuary poles among the Haida antedating 1840 or 1850, though a few earlier and transitional ones may have served to introduce the fashion.

The probabilities are that totem poles proper ultimately originated among the Nisræ or northern Tsimshian, of the Nass River. From narratives recorded among them, it seems that a few mortuary columns were erected on the lower Nass at a fairly early date, that is, a few generations ago. It is otherwise evident, from traditional recollections, that the custom of thus commemorating the dead is not very ancient among them; yet, it certainly antedated that of the Gitksan or the Tsimshian. And it is far more likely that the Haida and the Tlingit imitated them than the reverse. The estuary of the Nass was the most important thoroughfare of Indian life in all the northern parts. *Ulaken* fishing in the neighborhood of what is now called Fishery Bay, near Gitrhatin—the largest Nisræ center—was a dominant feature in native life. The grease from the *ulaken* or candle-fish was a fairly universal and indispensable staple along the coast. For the purpose of securing their supply of it the Haida, the Tlingit, the Tsimshian, and the Gitksan traveled over the sea or the inland trails every spring and camped in several temporary villages of their own, from Red-Bluffs eastwards on the lower Nass, side by side, for weeks at a time. During these yearly seasons, exchanges of all kinds, barter, social amenities, or feuds were quite normal. As a result, cultural features of the local hosts—whether they were willing hosts or not is an open question—were constantly under the observation of the strangers and were often a cause for envy or aggression. It is doubtful, on the other hand, whether the Tsimshian ever traveled to the Queen Charlotte Islands or the Tlingit country, unless they did it on war raids or isolated visits between relatives.

It is accepted among specialists that the Nass River carvers were, on the whole, the best in the country. Their art reached the highest point of development ever attained on the Northwest Coast. And their totem poles—more than twenty of which can still be observed in their original location—are the best and tallest seen anywhere. The Haida poles are stilted, conventional, and offer little variety in comparison. It is noteworthy, besides, that the Tlingit poles resemble in character those of the Nass River. And the Nisræ claim that a number of totem poles at Tongas (Cape Fox), the southernmost of the Tlingit villages, was the work of their carvers, within the memory of the passing generation.

NATIONAL MUSEUM,
OTTAWA, CANADA

DISCUSSION

BY JOHN R. SWANTON

Doctor Swanton stated that information he had obtained while he was among the Haida on the Queen Charlotte Islands nearly thirty years ago tended to confirm Doctor Barbeau's conclusions. He was told that formerly there were no totem poles, at least none of the type later erected in front of the house, but that the house front itself was painted or carved. Later the designs were put on a broad slab of wood which in turn gave way to the true totem pole. He said that he had heard that the last row of poles at Skidegate, Queen Charlotte Islands, was put up after the establishment of the Hudson's Bay Post at Victoria, in 1843. This information was obtained from the late Doctor C. F. Newcombe.

BUREAU OF AMERICAN ETHNOLOGY,
WASHINGTON, D. C.

THE ORIGIN OF FLORAL AND OTHER DESIGNS AMONG THE CANADIAN AND NEIGHBORING INDIANS

By Marius Barbeau

THERE are barely a few traces left of the prehistoric costumes and body decorations of the early natives, in either actual or derivative forms. They were everywhere most elementary, except among the Eskimo, and soon gave way to other fashions. This is borne out by the pictorial records of the Indians, such as we find in Champlain's *Travels,* or in the early chronicles by Lafitau and his contemporaries. None of the garments which we now associate inseparably with our Indians were known to their forefathers in the beginning. The leggings, the uniform-like coat, the pointed hat of the Naskapi, the feather bonnet and trailer of the prairies, the shoulder band and attached leather or cloth bag, the blanket, were all introduced by the traders and the missionaries, or through the imitative vanity of a people naturally fond of ornaments.

Their decorative embroidery either in the form of bead, silk, ribbon, moosehair and porcupine quill, is a mere corollary of the introduction of the foreign garments with which they still retain their connection. The floral patterns of our northern tribes, which are abundantly represented in our museum collections, belong, one and all, to the French *renaissance* and peasant art, and were adapted at an early date by the Indians to suit their fancies. The evolution of this spurious American art can easily be traced through all its stages. Sewing and embroidery, as well as other domestic arts, were taught systematically to Indian girls of Algonkin and Iroquois, even of Eastern Eskimo, extraction by the nuns in the ancient colonial missions and schools. Besides, the School of Art founded in 1669 by Mgr. de Laval at Cap Tourmente for the requirements of education and worship so firmly established the *renaissance* architectural decoration in the colony that it has continued unimpaired almost to the present day in much of French America, from the Saint Lawrence to Louisiana. The floral art of the Indians, interesting in itself, is merely its collateral development. In such published compilations as Speck's *Double-curve motive,* possibly not a single design can be traced back to prehistory. They are derived from rococo figures and ornaments of the Francis I period as transplanted to Canada.

National Museum,
Ottawa, Canada.

FIELD NOTES ON NORTHERN ALGONKIAN MAGIC

By John M. Cooper

The area covered in the present paper extends from Lake St. John in the province of Quebec, to James Bay, the Albany River watershed, and the Rainy River and Lake of the Woods region, and is inhabited by hunting tribes speaking Montagnais, Cree, Algonkin, and Ojibway dialects of the Algonkian stock. The data were gathered in the course of field-work carried on in the area during the last four summers. The map (Fig. 1) included in the present paper gives a key to the area covered.

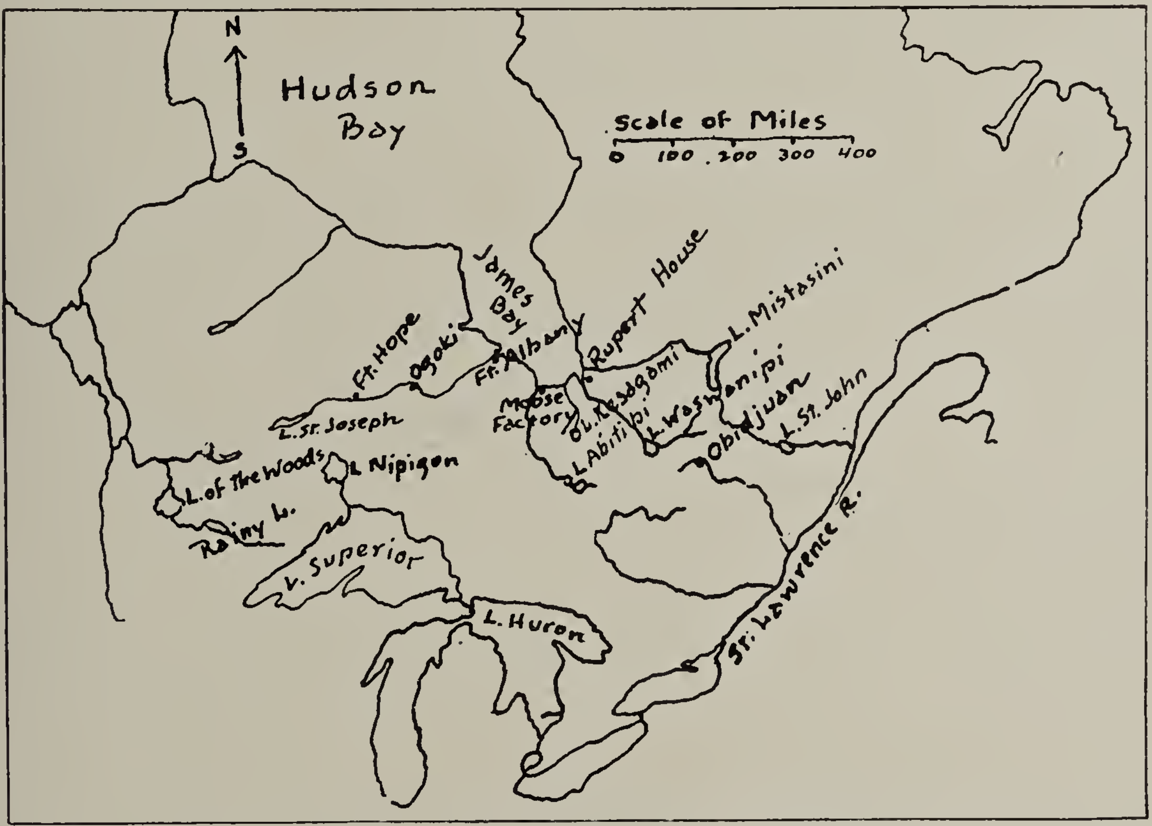

N
S
Hudson Bay
Scale of Miles
0 100 200 300 400
James Bay
Rupert House
L. Mistasini
Ft. Hope
Ogoki
Ft. Albany
Moose Factory
L. Kesagami
L. Abitibi
L. Waswanipi
Obidjuan
L. St. John
L. St. Joseph
L. Nipigon
L. of the Woods
Rainy L.
L. Superior
L. Huron
St. Lawrence R.

Fig. 1.—Northern Algonkian Area

Most of the many more common forms of magic found in the area fall into four major classes: hunting magic, weather magic, cradle charms, and conjuring. Some of the less common practices are omitted from the present paper.

1. Hunting Magic. The bezoar is well known in Lake of the Woods, Fort Albany, Rupert House and the lower Harricanaw River region, the northern St. Maurice, and Abitibi. This stony formation, found occasionally in the body of the caribou, is preserved by the natives and is supposed, at least in the first three of the above five regions, to bring good luck to the finder. There seem to be few records of the use of the bezoar on the American continent. It is in common use among the Tehuelche of Patagonia. It is also reported by LeJeune among the natives north of the St. Lawrence in his *Relation* of 1637. It is barely possible that the magical use of the bezoar may be of European introduction, but a native origin seems more likely. The area in which its magical use is in vogue

is a very large one. At the time LeJeune wrote, in 1637, the natives had been little influenced by European culture. In addition, the relatively rare occurrence of the bezoar would easily lead the natives to attach magic power to it. The common native name, both in Tête de Boule Cree and Lake of the Woods Ojibway, is: *atikomaskiki,* caribou's medicine.

Foetal inclusions are used and commonly used throughout the entire area to bring good luck. I have obtained records of their use among the following groups: Lake of the Woods, Rainy Lake, Fort Hope, Ogoki, Fort Albany, Moose Factory, Kesagami, Rupert House, lower Harricanaw River, Abitibi, Waswanipi, Obidjuan (the northern Têtes de Boule), and, probably, Lake St. John. The rabbit foetal inclusion is the one most frequently found. This is natural enough as the rabbit is abundant and is taken in large numbers over most or all of the area. I also have records of the foetal inclusions of porcupine, beaver, caribou, marten, and black bear. The following are some of the native names used for the rabbit inclusion: Lake of the Woods and Fort Hope Ojibway, *pitowābosons;* Fort Albany Cree, *pitowābucwan;* Rupert House and lower Harricanaw Montagnais, *katciābucūc.* As in the case of the bezoar, our records of the Indian use of the foetal inclusion in magic are comparatively rare. Barbeau mentions what is evidently the foetal inclusion of a deer, kept to bring luck in hunting, in his *Huron and Wyandot Mythology* (pp. 264–265) in a text recorded in Oklahoma in 1912. Goddard in his *Beaver Indians* (p. 262) gives a story in which a moose gave a little moose to a man and this brought the man good luck. This Beaver reference is possibly to a foetal inclusion. Generally speaking, the foetal inclusion is taken from the body of the slain animal, hung up, and dried, and carefully kept by the hunter. In some places it is the practice to take the rabbit foetal inclusion and either pass it completely through the snare or else pass it partially through and then withdraw it.

Some data were gathered regarding the magical use of the foetus proper of otter, marten, lynx, and bear. The foetus is kept and touched to or rubbed on the trap or snare. I obtained this evidence only for Rupert House and the lower Harricanaw River region from two native informants, but was unable either to observe the practice personally or to check up and verify this information independently. Consequently, although I found these two informants otherwise very reliable and was able to check up practically all the other information obtained from them by data obtained independently, there still remains a little doubt, perhaps, as to this particular point.

A common practice through large parts of the area, at least, and probably through all of it, is that of singing and drumming for game the night before going out on a hunting trip. I have records of this custom from Lake of the Woods, Rainy Lake, Moose Factory, Rupert House and the lower Harricanaw River, Abitibi, Waswanipi, and Obidjuan. Our published sources show that the practice was very widespread, extending among the Algonkian-speaking peoples at least from Labrador to York and Churchill. In some places, at least, it is customary, in addition to singing and drumming for game, to take a sweat in the semispherical sweatlodge before starting on the hunt.

Through the area there is a bewildering variety of magical hunting customs in connection with the disposal of the bones and other body parts of birds and animals that have been killed. Customs differ considerably from place to place and a detailed account of field-notes collected would run into many pages. The more common customs are: not to give the bones or at least some of the bones to the dogs; not to throw some bones on the fire, but instead to throw them into the water or else to hang them up on a tree or to put them on poles or scaffolds erected in the bush or along the river banks. Over a large part of the area, too, pairs of duck or loon wings are tied together by the first primaries and hung up on a tree for luck.

This last summer I found that at both Lake of the Woods and Rainy Lake it is a common custom to take the bear kneecap and put it on hot sand or a hot stone. If it revolves, this will mean good luck in bear hunting. If it does not revolve this will mean bad luck. The only other record of this custom, which is perhaps a little more divinatory than magical, is Speck's record from Labrador. Petitot mentions what may be the same custom at Great Bear Lake.

2. Weather Magic. There are several types of magic used to bring cold weather and the north wind: The buzzer, the bullroarer, hareskin, and Whiskey Jack.

The buzzer is made of a bark or wooden disc or of moose bone, to which two strings are attached parallel. The disc or bone is then revolved with a twirling motion and the strings are alternately loosened and held taut, causing the disc or bone to rotate rapidly with a loud buzzing, whirring, or droning noise. The custom is found at Lake of the Woods, Rainy Lake, Fort Hope, Ogoki, Rupert House and the lower Harricanaw River, Abitibi, Waswanipi, and Obidjuan. Speck reports it also from Timagami.

The bullroarer is made of a flat almond-shaped or lozenge-shaped bit of wood with a string attached to it, and is whirled around the head. I have found it in common use at Lake of the Woods, Rainy Lake, Rupert House and lower Harricanaw River, Obidjuan, and Waswanipi. Both the buzzer and the bullroarer are now more commonly used as children's toys, but are sometimes used, and were formerly used habitually, particularly after the first thaw of late winter, to bring the cold north wind to form a crust on the ice so that travel by snowshoe and transportation by toboggan would be less laborious.

It is quite possible that in the case of both of these traits, European influence may be responsible. On the other hand, both of them are fairly widespread in other parts of the continent, and the particular magical use to which they are put in the North might rather suggest a native origin.

At Lake of the Woods and Rainy Lake, a rabbitskin is sometimes thrown on the fire to bring cold weather. It is not allowed to burn up but is merely left on the fire long enough to be scorched. I have not found the custom elsewhere in the area but Skinner records it among the Eastern Cree.[1]

At Obidjuan, a snow man, the figure of *Kimūcwuminâw,* as they call North Wind being, is made, if cold weather is desired. Skinner reports this practice, too, from the Eastern Cree.[2]

---

[1] Skinner, Alanson, Notes on the Eastern Cree and Northern Saulteaux, *Anthropological Papers, American Museum of Natural History,* vol. 9, part 1, New York, 1911, p. 60.

[2] *Loc. cit.,* p. 59.

At three points of the area,—Lake of the Woods, Waswanipi, and Obidjuan,—still another method is used to bring cold weather. A Whiskey Jack, or Canada Jay, is caught, some of the feathers are plucked from the bird and it is set free again. The finding of the custom at the two extreme points of the area would give reason to believe that it probably existed over other parts of the area, but I have obtained no record of it elsewhere. It may be added that both at Lake of the Woods and Obidjuan it is considered bad luck to find the eggs of the Whiskey Jack and at Lake of the Woods it is also bad luck to find the eggs of the Chickadee.

At Obidjuan a cleft ponask stick with a little meat on it is picked clean with the teeth without touching it with the hands, to bring rain. This custom is also recorded by Skinner for the Eastern Cree.[3]

3. Cradle Charms. A number of cradle charms are used, the more common ones being the following: caribou teeth, a bit of navel string, miniature nets, duck heads, duck speculums, or other feathers or bits of fur.

Caribou teeth are attached to the cradle at the following places: Lake of the Woods, Rainy Lake, Lake St. Joseph, Fort Hope, Ogoki, Fort Albany, Abitibi, and Obidjuan. In some places, and perhaps in all, they are supposed to bring good luck in hunting in after life.

A bit of the child's navel string, usually tied up in a little skin pouch, is either attached to the cradle or else kept and preserved, at least at Rainy Lake, Lake St. Joseph, Fort Albany, and Obidjuan. It is usually thought that unless this is done the baby will cry too much. I have the tip of an otter tail gathered for me by my friend, Father Couture, among the Ojibway north of Lake Superior which was being used as a cradle charm, likewise to keep the child from crying too much. The preservation of a bit of the navel string is very widespread. It is mentioned by Franklin for the Cree and LeJeune for the Montagnais and elsewhere. Miss Gunther has recently collected and published the data on its widespread occurrence in the Northwest.

A small net in a little willow or other frame is attached to the cradle at Lake of the Woods, Rainy Lake, and Fort Hope. In spite of considerable inquiry I could find no record of this charm in the eastern part of the area covered. It is put on the cradle to catch and block oncoming disease and so prevent the disease from touching the child.

In addition to the above charms, quite a number of other ones, such as duck heads, bits of fur, patches of skin and feathers, duck speculums, turtle shoulders are used in the area. My records of these are from Rainy Lake, Fort Hope, Ogoki, Fort Albany, Abitibi, and Obidjuan.

4. Conjuring. Throughout the whole area a very distinctive type of conjuring has been in vogue and in most places is still so. The characteristics of this culture complex are the following. A cylindrical or barrel-shaped lodge is erected by imbedding from four to a dozen heavy poles very firmly in the ground and covering these on the outside with birchbark or canvas. The tent is ordinarily six to eight feet high. Usually, about halfway up, a hoop is lashed to the poles on the inside and another hoop secures them at the top. The top is

---

[3] *Loc. cit.*, p. 60.

ordinarily open or else has a conical cover. At the top, too, is usually put some kind of a rattle or else a bark tray or a pan with shot in it. This cylindrical lodge contrasts sharply in form with the semispherical sweatlodge found uniformly throughout the area.

The medicineman enters the lodge, the ceremony usually occurring only after nightfall. After he enters the lodge it begins to shake violently and to sway at the top, and the rattle sounds or the shot rattle in the pan or tray. Many noises are heard, particularly the noise as of a violent wind and the voices of the beings that come to the lodge. They come in through the top of the tent. One of these is the spokesman for the others. He is sent by some other being of whose identity I have never been able to get exact information in spite of persistent indirect and direct inquiry. This is one point in the conjuring complex about which the natives are extremely reticent. I know one man who speaks the local Ojibway dialect perfectly, is himself part Indian, who is on the most friendly and intimate terms with the Indians, and who has been personally interested in the conjuring complex and has investigated it for many years, but he told me that he, like myself, had never been able to find out just exactly who this ''boss'' of the spokesman is thought to be.

From Lake of the Woods to James Bay the spokesman for the conjuring tent beings is Mikenak, turtle. In the eastern area the spokesman is Mistābeo or else is known under the generic term [O]kijiko or Powāgan. The [*o*]*kijikuk* were known to and mentioned by LeJeune by this same name.

Clairvoyance, prophecy, and various white and black magic practices are integral parts of the conjuring complex. There is no relationship whatsoever, as far as I can discover, between this conjuring and Kije Manito. Power to conjure in this way is acquired by long fasting and dreaming. More common native names for cylindrical lodge conjuring are: Ojibway, *djēsikiwin* or *kosābandjigan;* Cree, *kosābatcigan.*

This cylindrical conjuring tent complex is extremely widespread and there is very frequent mention of it in the literature of the North. It prevails from Labrador in the northeast to the Great Lakes area as far to the northwest as York and Churchill and considerably beyond through much of the area of Cree influence. I have noted twenty-three references in our literature to the subject but there are no doubt many more. My own field records show the complex in full force in the following places: Lake of the Woods, Rainy Lake, Lake St. Joseph, Fort Hope, Fort Albany, Moose Factory, Kesagami, Rupert House and the lower Harricanaw River, Abitibi, Waswanipi and Obidjuan. The complex is pretty uniform, down to details, wherever found, and the distribution is continuous over an enormous area. Moreover, it may be regarded throughout the area as the major magical practice, except in the region around the Great Lakes where the quite distinct Midéwiwin is found. The cylindrical tent conjuring, however, flourishes side by side with the Midéwiwin in the area in which the latter is found. It looks as if, in the cylindrical lodge magic, we have to do with a very ancient culture complex, certainly reaching far beyond the coming of the white man, for we have evidence from early accounts, such as those of Champlain and LeJeune, of its occurrence in their day. It occupies a very important and distinctive place in the native culture.

Throughout the whole area covered we find a fairly uniform distribution of a considerable number of identical magical practices. As in magic, so in most other culture phenomena, the whole area shows striking uniformity. The major difference appears to be the Midéwiwin society and the totemic sib organization which characterize the western and southwestern part of the area, but which are lacking in the eastern and northeastern section. We have in this area from Labrador to Lake of the Woods a fairly uniform basic culture, on the western and southwestern sections of which the Midéwiwin and sib organization appear as if superimposed.

Catholic University of America,
Washington, D. C.

WAS CROSS-COUSIN MARRIAGE PRACTISED BY THE NORTH-CENTRAL ALGONKIAN?

By A. Irving Hallowell

I

MARRIAGE of near kin, with the exception of persons standing in the primary biological relationships, is so familiar a phenomenon among preliterate peoples that there is nothing inherently startling in the suggestion that cross-cousin marriage may have been practised by some of the Algonkian-speaking peoples of the Eastern Woodland region.

To my knowledge, however, this type of formal inbreeding has not been reported by ethnologists as a contemporary institution among any of the tribes of eastern North America, nor does Frazer report a single case from his survey of the older travel literature.[1] All the well-authenticated instances of its occurrence in North America seem to be confined to the region west of the Rocky Mountains and these are somewhat sporadic in geographical distribution, being localized in three distinct culture areas.[2]

The region dealt with in this paper is one, which in historic times, has been occupied by Ojibway, Ottawa, and Algonkin speakers and which, roughly speaking, embraces the geographical area north of the Great Lakes. The languages spoken by these peoples are very closely related to each other, comprising three of the most important variants of one of the major subdivisions of the Eastern-Central division of the Algonkian stock.[3] This linguistic affiliation is of considerable importance since the major portion of our evidence is based upon an analysis of kinship terms. These terms have been secured from three sources: 1, documentary material of the seventeenth and eighteenth centuries;[4] 2, published vocabularies; and 3, unpublished vocabularies from various localities obtained within recent years.

For Algonkin material all of the earliest known manuscript vocabularies and dictionaries have been consulted. These comprise Anonymous Manuscripts I (1661), II (1662?), IV (1669?), V and the *Dictionnaire Algonquin* of Père André and that of Abbé Thavenet. The last-mentioned dates from the late eighteenth or early nineteenth century, whereas all of the others, with the possible exception of V, can be attributed to the last half of the seventeenth century.[5]

---

[1] Frazer, J. G., *Folk-Lore in the Old Testament*, vol. 2, p. 141 seq.; cf. Briffault, R., *The Mothers*, vol. I, pp. 563–587.

[2] Lowie, R. H., *Primitive Society*, p. 27.

[3] See Michelson, T., Preliminary Report on the Linguisite Classification of Algonquian Tribes, *Twenty-eighth Annual Report, Bureau of American Ethnology*, Washington, 1913. cf. Wissler, C., *The American Indian*, p. 404.

[4] I am indebted to the Society of Sigma Xi (Pennsylvania Chapter) for a part of the financial support necessary in securing these data.

[5] All of these documents are listed and described by Pilling (*Bibliography of the Algonquian Languages*, 1891) who also dated the anonymous ones. He does not refer to them

So far as published material is concerned my chief sources have been J. A. Cuoq[6] and G. Lemoine,[7] Mackenzie's vocabulary being of no practical importance in our present study. In addition Doctor Speck has permitted me to use a kinship vocabulary obtained from the River Desert Band, Maniwaki, Ontario, in February, 1927,[8] and F. Johnson and D. S. Davidson, who visited the Golden Lake and the Grand Lake Victoria bands respectively, obtained some data on relationship terms which I have also been able to utilize.

For the Ottawa there is one seventeenth century manuscript extant written by André, which includes an excellent list of kinship terms[9] and an eighteenth century document attributed to Père Pierre du Jaunay.[10] Of published lists, Morgan's[11] is the most complete, while that of Chief Blackbird while containing a number of terms[12] is not very satisfactory. In the case of the Ojibway Chamberlain's Mississauga material, in part obtained from a manuscript in the Public Library of Toronto, which dates from the beginning of the nineteenth century, is of no great importance so far as information in regard to kinship terms is concerned,[13] but, so far as I know, there are no seventeenth or eighteenth century vocabularies extant. Other published material utilized comprises the vocabularies of Morgan obtained at Marquette, Lake Superior, 1858 (No. 40); at Grand Traverse Bay, Michigan, 1860 (No. 41); at Rochester, the same year, from a native Ojibway of Owens Sound, Lake Huron (No. 42); at the Kansas Reservation, 1860 (No. 43); and the dictionary of Baraga,[14] the vocabularies of E. F.

---

by number but since each document is thus marked they can best be identified in this way. All of these manuscripts, along with the dictionary of Thavenet, were removed from the mission at Oka some years ago and are now in the Bibliothèque de Saint Sulpice, Montreal, Canada, where they are in charge of the librarian M. Aegidius Fauteux to whom I am indebted for the privilege of examining them. The André manuscript is the property of St. Mary's College, Montreal, kindly placed at my disposal by Father Melançon.

[6] *Études Philologiques sur Quelques Langues Sauvages de l'Amerique,* Montreal, 1866. Chapter IV. (Cited as *Etudes*) and *Lexique de la langue Algonquine,* Montreal, 1886 (cited hereafter as *Lexique.*)

[7] *Dictionnaire Français-Algonquin,* Chicoutimi, P. Q., 1909.

[8] This vocabulary is of special interest since the Indians at Maniwaki are descendants of Algonkin who formerly resided at the Lake of Two Mountains, Oka, P. Q.

[9] *Precepts, Phrases et Mots de la Langue Algonquine, Outavoise pour un Missionnaire nouveau,* (?) 1688. I have included this manuscript in the Ottawa group since there is no other document of equal antiquity which purports to give an Ottawa vocabulary. As we shall see in the course of our investigation, there are practically no important differences in the older relationship vocabularies of the two groups, so that this document might have been used in either series. It is the property of St. Mary's College.

[10] *Dictionarium Gallico-8ta8aka,* 1741 (?). Pilling accepts the authorship of this document on the authority of the late Reverend A. E. Jones, of St. Mary's College, Montreal. See p. 260.

[11] Systems of Consanguinity and Affinity of the Human Family, *Smithsonian Contributions to Knowledge,* vol. 17, 1871. Vocabulary obtained at the Ottawa Reservation, Kansas, in May, 1859.

[12] Blackbird, A. J., *Ottawa and Chippewa Indians of Michigan,* 1897.

[13] I have not been able to consult this document myself. See Pilling, pp. 78–79, and A. F. Chamberlain, *Journal of American Folk-Lore,* vol. 1, p. 152. Also, *Language of the Mississauga Indians of Skūgog,* 1892.

[14] *A Dictionary of the Otchipwe Language,* Cincinnati, 1853.

Wilson[15] and F. G. Speck.[16] In regard to manuscript material I am indebted to Professor Boas and Doctor Michelson for allowing me to use the schedules collected by William Jones[17] and to Doctor Radin for terms obtained at Sarnia, Ontario. Unfortunately, the manuscript dictionary of Abbé Martin Férard[18] which Father Melançon, of St. Mary's College, Montreal, allowed me to see is not only incomplete, but the writing is almost completely illegible. The only other material used is that which I obtained from the Lake Nipissing Ojibway in September, 1927. With the exception of the Ojibway material which is limited to the nineteenth century and the fact that I have not been able to secure a set of relationship terms from any contemporary speakers of the Ottawa language, the data cited represent a fair sampling of the kinship terms of the linguistic groups considered, for the past two and one half centuries. From a strict chronological point of view, the Algonkin material is by far the best, since all of the vocabularies listed were compiled in the neighborhood of Montreal, the departure of the Algonkin now at Maniẃaki marking the final retirement of Algonkin speakers from the former region. From the standpoint of geographical distribution, Ojibway material is far stronger than that of the other two groups but this is inevitable, owing to the numerical preponderance of the Ojibway in the recent historic period and also to the absence of competent ethnological inquiry among the surviving Algonkin and Ottawa bands. Nevertheless, the fact that these dialects are so closely related, minimizes to some extent, the geographical and temporal gaps in our sampling, so that, on the whole, it seems fair to consider all three groups as a unit, so far as the present study is concerned.

II.

Since contemporary ethnological inquiry has not produced any evidence of the practice of cross-cousin marriage among Algonkin, Ottawa, and Ojibway-speaking peoples, or, for that matter, among any other Algonkian, this fact would seem to present an initial difficulty which, to the minds of some investigators, may prejudice any discussion of the question we have raised. Moreover, the marriage of cousins is actually viewed with abhorrence by some present-day Algonkin tribes and there are some scattered references which indicate that a similar attitude was held in some localities a century or more ago.

On the other hand, we have no right to assume that the social customs of present day Algonkian peoples represent their aboriginal social pattern of three or more centuries ago. If we adopt this point of view, our assumption not only involves a stability in social organization which is historically improbable, but it fails to take into account the enormous influence which European culture has exercised in the particular region under discussion. In the seventeenth century travelers, missionaries, and traders traversed the Great Lakes region, establishing settlements and mission stations. At a later period the growth of cities and modern industries accompanying the construction of trans-continental railways caused displacements of population and inevitable readjustments in economic and social life and in religious thought, which can hardly be over-estimated. It is a wonder, indeed, that we can discover anything of truly aboriginal character in the lives of many of these peoples today. Consequently, while it is possible that an intensive inquiry may yet reveal positive traces of cross-cousin marriage among the north-central Algonkin, it seems highly improbable. If such a custom were ever practised at all, we may assume that we are dealing with an institution which belongs to the historic past. Positive evidence, convincing to all, may never be forthcoming. Even with complete recognition of this difficulty we venture to believe that there is sufficient circumstantial evidence to make out a very strong case.

---

[15] *The Ojibway Language,* Toronto, 1874.

[16] Family Hunting Territories and Social Life of Various Algonkian bands of the Ottawa Valley, *Memoir 70, Anthropological Series 8, Geological Survey of Canada,* 1915.

[17] The provenience of these vocabularies is not exactly known.

[18] See Pilling.

In the first place, we have two positive statements which indicate that among the more remote Ojibway, at least, cross-cousin marriage was actually practised in certain bands as late as the first half of the nineteenth century. The earliest is that of Duncan Cameron,[19] who makes the following observations in respect to the Ojibway in the neighborhood of Lake Nipigon:—

> ''The children of two brothers or two sisters always style themselves brothers and sisters, and so will their children and children's children down to the last generations; but the children of a brother and those of a sister do not, and it is lawful for them to marry together, but not for two of the same mark,[20] although perhaps in no other way connected.''

The other statement is made by H. Y. Hind.[21] On one occasion he asked his guide why it was that the Indians who leave the woods and go to the coast die so quickly. The Indian replied that it might be due to the fact that the natives ''marry so much together in one family.'' ''It is the same everywhere in the woods,''[22] he added. Apropos of this remark of his guide, Hind writes:—

> ''Among the Ojibways, all the way from Lake Superior to Red River, intermarriages form the rule instead of the exception. One may visit a small camp and find them all cousins, or brothers or half-brothers or half-cousins, but nearly always related to one another. It is curious that the children of a brother and sister can marry, but the children of two brothers or of two sisters cannot. They call one another brother and sister.''

While these references indicate quite clearly the distinction which was made between parallel cousins and cross-cousins and they also make it plain that marriage was only permitted between persons of the latter category, we have no way of estimating the quantitative aspects of the custom, except that Hind was evidently tremendously impressed by the extent to which family inbreeding was carried on. That it must have been more than a sporadic custom will become sufficiently clear in our discussion of the kinship terms. Fortunately enough, the above statements, although they refer to only one of the three dialectic groups under discussion, establish the custom of cross-cousin marriage in the one group for which we have no early kinship vocabularies. The evidences for cross-cousin marriage among the Ottawa and Algonkin rests entirely upon the inferences we can draw from an analysis of their relationship terms and the explanatory statements of their usage which appear in documents of the seventeenth and eighteenth centuries.

---

[19] In Masson, L. R., *Les Bourgeois de la Compagnie du Nord-Quest,* (circa 1800,) vol. 2, p. 247.

[20] *i.e.,* totemic sib.

[21] *Explorations in the Interior of the Labrador Peninsula,* London, 1863. Hind had previously explored the Red River and published another book entitled, *Narrative of the Canadian Red River Exploring Expedition,* etc., 1860.

[22] Pierre was an Abenaki, not a native of Labrador, so that his explanation was based on observations of the customs of a foreign nation.

That such a procedure is methodologically hazardous I will be the first to admit. In fact, I share the skepticism of those who feel that we cannot, with certainty, infer social customs practised in the past from the contemporary evidence of kinship terms alone. In another study, published in the *Proceedings* of the twenty-second Congress, I attempted to show how little correlation there was between the relationship terms of the St. Francis Abenaki and their socio-economic life.[23] Consequently, I began the present study in a somewhat prejudiced spirit but found the evidence so unequivocal and consistent at so many points that it seemed impossible to dismiss it on *a priori* grounds. And, as Lowie has taken occasion to point out, "there can be little doubt that a well-established marriage rule *often* finds expression in nomenclature"[24] (italics ours). That a very close correlation does occur in some cases between the practice of cross-cousin marriage and certain terminological equations of the accompanying relationship system, is a well-established fact. But the occurrence, in other cases, of the terminological equations without the institution and the presence of the custom without the characteristic kinship nomenclature, makes it doubtful how invariable this socio-linguistic correlation actually is. It would seem, however, that the instances in which the presence of terminological equations which reflect cross-cousin marriage occur without the concurrent practice of this custom, should not be given too much negative weight until we are more fully informed in respect to the determining factors of such linguistic constellations. For, it may ultimately be shown in some of these cases that the custom did exist at a former period. On the other hand, some instances of this kind, as Lowie has pointed out in discussing the Melanesian data,[25] may be explained by the fact that the geographical range of the nomenclature has been widened, by a process of borrowing, beyond the actual practice of cross-cousin marriage itself.

In the present case, the difficulties are considerable, not only because we have such meager historical proof regarding the custom itself, but also because cross-cousin marriage has not been reported elsewhere in the whole of eastern North America. We cannot, therefore, resort to any sort of hypothesis which assumes that either the practice itself or the kinship nomenclature was borrowed from some non-Algonkin people. If cross-cousin marriage was not formerly practised by these northern Algonkin and did not act as a conditioning factor in the usage of the terms to be described, then some other hypothesis, equally consistent with the facts, must be advanced, or else we are compelled to reduce the linguistic phenomena in question to "accident" or "chance." This alternative is certainly tantamount to abandoning any rational explanation at all.

All I wish to do in the present paper is to consider the available evidence on its merits and to draw what inferences seem plausible as regards historical probabilities.

---

[23] *Recent Changes in the Kinship Terminology of the St. Francis Abenaki.*

[24] Lowie, R. H., *Culture and Ethnology,* p. 170.

[25] *Op. cit.*

III.

Although Tylor first introduced the subject of cross-cousin marriage into sociological discussion[26] it was Rivers,[27] I believe, who was responsible for drawing attention to the terminological equations which often accompany this custom and, as he believed, indicate its former practice when direct sociological evidence is lacking. Spinden, in a discussion of the evidence for formal inbreeding among South American natives also emphasizes the coincidental relationships which are the logical result of cross-cousin marriage and like Rivers, considers the linguistic evidence significant even when the custom itself is not observed.[28] Let us now turn to a consideration of this type of evidence in the case of the Algonkin, Ottawa, and Ojibway peoples.

In the first place, it is certain that the differentiation of cross-cousins from parallel cousins is a genuine aboriginal feature of these languages. While in a few of the contemporary dialects of this group, this distinction has disappeared, we may regard these cases as symptomatic of the changes in the usage of relationship terms which, in modern times, have taken place in other Algonkin languages.[29] All of the manuscript vocabularies of the Algonkin-Ottawa group testify to the former differentiation of cousins and in Manuscript V (Algonkin) we have the following explicit statement to this effect.

> "Les enfants des deux frères, ou les enfants des deux soeurs s'apellent frères et soeurs il n'y a que les enfants du frère et de la soeur ou de la soeur et du frère qui s'apellent cousins."

That the distinction just noted was of even wider significance, in its effects upon linguistic usage and social practice, than the casual statement quoted would suggest, is implicit in a remark made in Manuscript IV (*Racines de la Langue 8ta8oise et Algonquine*). The author of this document states:—

> "Tous les cousins en mesme degré s'appellent frère et soeur: niseiens et nichimens. Leurs enfants appellent oncles ceux qui leur sont cousins en degré supérieur et ceux que leurs pères appellent leur oncle at leur frère."

Now this passage, at first reading, is very ambiguous indeed. But if one prefaces it mentally with the notion that the distinction made between parallel and cross-cousins was carried out over more than one generation the meaning of the statement is clear. Cousins "in the same degree" I interpret as parallel cousins, which is indicated by the terms given.[30] It is the following sentence which throws light on the terminological usages between *descendants* of parallel cousins. From a man's point of view, for example, the term *nimish8mens*[31] which in its primary usage connotes paternal uncle will also be the term employed for father's father's brother, father's father's brother's son, and father's father's brother's son's son. This usage at any rate, corresponds point for point with the statement in Manuscript IV and our interpretation receives corroboration in so far as marriage is concerned from another source.

---

[26] Tylor, E. B., On a Method of Investigating the Development of Institutions, *Journal of the Royal Anthropological Institute,* vol. 18, pp. 245–264, 1889.

[27] Rivers, W. H. R., *Kinship and Social Organisation,* 1914, p. 20 seq.

[28] Spinden, H. J., Formal Inbreeding in Human Society with South American Examples, *Eugenics, Genetics and the Family,* vol. 1, pp. 285–296, 1923.

[29] See e.g. the writer's study in the *Proceedings of the XXII Congress of Americanists,* Recent Changes in the Kinship Terminology of the St. Francis Abenaki.

[30] These are the ordinary ones for older brother and younger sibling respectively and are to be found elsewhere in the manuscript from which the passage is quoted.

[31] A term related to that used for grandfather (*nimich8mis*) both of which I give as they appear in Manuscript IV.

In the volume of Hind, previously cited, there is a passage in which he quotes a statement of Francis Assikinac (an educated Ottawa) concerning prohibited degrees of relationship.[32]

> ''The degrees of relationship extended a great way among the Indians'' says Assikinac, ''and it was prohibited by custom to contract marriage within the forbidden bounds . . . suppose that an Indian A. had a cousin B., the son of A and the grand-daughter of B would be placed within the forbidden degrees of kindred, and should marriage take place between the parties, the son of A would be considered as marrying his niece.''

This statement, it seems to me, tallies perfectly with the previous one just cited from the seventeenth century Algonkin-Ottawa manuscript and is specially illuminating because it stresses the marital aspects of relationship, whereas the other passage emphasizes the linguistic side. In this case, as in the other, our assumption is that the cousin relationship referred to is of the parallel category. The son of A would in these circumstances employ the term *nimish8mens* for the son of B (his father's father's brother's son's son) and the daughter of the latter would thus be his (? parallel) niece (the granddaughter of B). Consequently, I think it is legitimate to draw the conclusion that *the descendants of siblings of the same sex* were forbidden to marry not only in the first, but in succeeding generations.

But some peoples who do not practise cross-cousin marriage also group parallel cousins with brothers and sisters, designate cross-cousins by special terms, and prohibit marriage between the former, so that this fact in itself is by no means indicative of cross-cousin marriage. At the same time, it is desirable to bear in mind the cross-cousin marriage hypothesis since if any such sociological factor be admitted as a moulding force in the kinship terms of these peoples, the clean cut differentiation of cousins in linguistic usage is one of the results which might be expected.

Of far deeper significance, however, is the manner in which the terms for cousin have been formed. It will be noted that in all three dialectic groups that first, they are composite in character and second, they are based upon *primary* terms which express the *sibling-in-law* relationships. Two characteristic suffixes have been utilized in their composition, both of which appear to be diminutives.[33] As a result we may formulate the following equations which indicate the coincidental relationships involved. All of these are theoretically what one would expect if cross-cousin marriage had been practised.[34]

1. Woman's sister-in-law + suffix = woman's female cross-cousin.
2. Man's brother-in-law + suffix = man's male cross-cousin.
3. Sibling-in-law (of opposite sex) + suffix = cross-cousin (of opposite sex) = sweetheart.

In addition to the preceding equations there are several others in which the coincident relationships are even more striking.

4. Son-in-law + suffix = cross nephew.
5. Mother-in-law + suffix = father's sister.

---

[32] Vol. I, p. 179.

[33] The use of which is a characteristic feature in Algonkin kinship terms.

[34] In languages where the sibling-in-law relationship is more simply expressed we would have a single equation instead of two and in respect to (3) the use of husband and wife terms between cross-cousins of opposite sex sometimes occurs.

This list of equations, which appears consistently in Algonkin, Ottawa, and Ojibway terminologies, except where relationship vocabularies are in a state of disintegration, includes all, save two, of the fundamental equations one would theoretically expect if cross-cousin marriage was reflected in a relationship system. The missing equations are (6) the equivalence of father-in-law with mother's brother and (7) cross niece with daughter-in-law.

With possibly one exception it will be noticed in our subsequent discussion that the composite terms are those which are employed for blood relatives, whereas the primary terms connote relatives by marriage. This fact immediately suggests that the latter have been applied secondarily to the former group rather than the reverse process. That such an extension of usage was brought about by a sociological stimulus does not seem impossible. Cross-cousin marriage thus appears to be a legitimate working hypothesis. It explains the linguistic facts more plausibly than any other theory. We shall not hesitate to use it as a working hypothesis throughout the following discussion, during the course of which a number of points already stated will be elaborated in more detail.

(1) Woman's sister-in-law + suffix = woman's female cross-cousin
  A. Algonkin
    (1) Woman's sister-in-law: ms. V (*ni‘tang*), "fm̃ de mon frère;"[35] André (*nitan, nitakoua*) "la soeur de mon mary;" Cuoq (-*ang*), "belle soeur de femme;" Lemoine, "belle soeur entre femmes;" Speck (*ni·daŋg*) "my husband's sister."
    (2) Woman's female cross-cousin: ms. V (*nitang8chiens*), "ma cous. ex sorore p. v. la fm̃ de mon c. ex sor. p.;"[36] André (*nitangouen*) "ma cousine, fille de ma tante du costé de mon père dict une fille;" Cuoq (-*angocenj*), "cousine de femme;" Lemoine, "cousine entre femmes." Speck has recorded the the term *ni·ta'wɑcec,* connoting "father's sister's daughter" at Maniwaki. This vocable is unique and appears to be a modern feminization of *nitáwis,* utilized as a substitute for the older cousin term.
  B. Ottawa
    (1) Woman's sister-in-law: Jaunay (*nitang*) "ma belle soeur, ait mulier;" Morgan (*n'-dan-gwá*) husband's sister, woman's brother's wife.
    (2) Woman's female cross-cousin: Morgan (*n'-dä-kwam*), father's sister's daughter, mother's brother's daughter.
  C. Ojibway
    (1) Woman's sister-in-law: Morgan (No. 40, *nin-dán-gwĕ,* No. 41 *nin-dón-gwa,* No. 42, *nin-dän-gwá,* No. 43, *n'dongwą̆',* No. 44,

---

[35] Probably, "woman speaking," in view of other data.

[36] The abbreviations in this and subsequent quotations all occur in the original ms; *fm̃* is a frequent abbreviation for femme and *v.* is evidently Latin *vel.* In respect to phonetic orthography, I have simply reproduced the terms as they appear in the sources quoted. *8,* which so frequently appears in the manuscripts = *o, u,* sometimes the semi-vowel (*w*), or even *wa.*

n'-dān-gwá), husband's sister, brother's wife; Baraga (*nindangwe*), "sister-in-law, my friend, my companion. Only a female will say so, speaking to a female or of a female;" Wilson (*nindaungwa*);[37] Jones (*nindāngwä*), "sister of my husband, my intimate friend; this is regarded as an intimate relationship;"[38] Radin (*nindaŋgέ*), "my husband's sister, my brother's wife;" Johnson (*ndángwe*), "sister-in-law." At Lake Nipissing *ni·'nɑm* was consistently given me for sister-in-law and as far as I could judge, the older term was not in common usage. In short, there is evident in this band a tendency for the sex-linked cousin term to disappear.

(2) Woman's female cross-cousin: Morgan (No. 40 *nin-dän'-go-she*, No. 41 *nin-doń-go-sha*, No 42 *n'-dä-n'-go-shă'*, No. 43 *n'-dän̤-gwush-ă'*, No. 44 *n'-dä-kwam*) father's sister's daughter, mother's brother's daughter; Baraga (*nindángoshe*), "my cousin, only a female speaking to her she cousin or of her will use this expression;" Wilson (*nind-aungoosha*), cousin (female);[39] Jones (*nintāngucä*) "daughter of my father's sister or daughter of my mother's brother"—"relationship between daughters of a brother and sister;" Radin (*ⁿdaŋgocέ*), "my maternal uncle's daughter, my paternal aunt's daughter;" Speck (*ninda'ŋgʷecec*), "girl cousins, by mother's sister"[40] (reciprocal); Hallowell (*ndaŋgʷcέ*);[41] Johnson (*nindowkeçe*) "female cousin."[42]

These last three cases represent the persistence of the older term for women's cross-cousin without the exclusive application of it to individuals in this relationship. These departures in contemporary usage are symptomatic of the general looseness which characterizes the kinship vocabularies of these bands today, as compared with the more conservative groups.

Sapir has pointed out that:—

> "On Oj *-dângw-* is based also dj. *nin-dângo-she* . . . *-she*, like *-s* of Cree *n-takku-s* . . ., is diminutive," **-ta-kkw* or **-taŋkw-* "probably meaning primarily 'sibling-in-law of same sex as speaker.' "[43]

---

[37] P. 353.

[38] Jones explains in another part of his ms. that it is a "term used between girls of close friendship" and also for "sister-in-law."

[39] p. 353.

[40] This is the only independent cousin term which Speck reports. Its use for parallel instead of cross-cousins is aberrant in view of its widespread usage in allied dialects for the latter only.

[41] Simon Commanda had to be prompted in order to recall this usage; the term is probably employed for parallel cousins by other speakers when used at all. It is somewhat paradoxical that I secured it as a cousin term from much younger speakers at the Garden Village settlement.

[42] Used for both types of cousins. From the context of Mr. Johnson's notes I take it that the term may be used by either sex.

[43] The Algonkin Affinity of Yurok and Wiyot Kinship, *Journal de la Société des Américanistes de Paris*, N. S., tome 15, 1923, p. 27.

In connection with this problem it may be well to call attention to the fact that Thavenet and later Cuoq[44] point out that there is an Algonkin word *angwe*, obviously related to the term for woman's sister-in-law which the former states is used between women "dans le sense de belle-soeur et de camarade."[45] Commenting on the use of *angwe* for "belle-soeur," Cuoq remarks:—

> "Toute le monde disait autrefois, et plusieurs disent encore aujourd'hui *ang* et non pas *angwe*, pour belle-soeur. *-ang* est toujours précédé du signe personnel; *angwe* peut le prendre ou s'en passer."[46]

It would thus appear that we are very close here to the origin of the stem which so consistently appears in Algonkian, Ottawa, and Ojibway terms for woman's sister-in-law.

It will be noticed that the Ojibway terms for woman's sister-in-law consistently exhibit phonetic variants which are closest to the fuller form (*angwe*) while in Algonkin the semi-vowel + vowel disappears. However, André gives variants for both sister-in-law and cross-cousin, which approximate the Ojibway terms for the former of these relationships. In Ottawa the data are so meager that we can only point out that the oldest term for woman's sister-in-law is identical with Algonkin whereas the modern one corresponds to Ojibway. Morgan's cross-cousin term (No. 44) is aberrant in our series.

If the relationship terms in question are derivatives of *angwe* the root element might then be expressed as *-āηk*^{w}, the initial *t* (*d*) in Sapir's reconstruction being considered an intervocalic in some forms or even a part of the pronominal element. The final *w* + vowel disappears, as we have said, in Algonkian-Ottawa but is preserved in the Ojibway forms connoting sister-in-law. In the terms for woman's cross-cousin we have the old stem preceded by the pronominal element (*nit-*, *nind-*) with the simple diminutive suffix (-ce) in Ojibway or the (?) double diminutive (*-cεj*) in Algonkin. That the terms denoting this latter relationship represent a secondary development seems likely in view of the preceding facts regardless of the historical reconstruction we have suggested. The final extension of usage may have been induced by cross-cousin marriage.

(2) Man's brother-in-law + suffix = man's male cross cousin
  A. Algonkin
    (1) Man's brother-in-law: ms. IV (*nita*), "beau frère;" ms. V, "mary de ma sr. v. fr. de ma fm̃;" André, "beau frère;" Thavenet, "beau frère, camarade;" Mackenzie, "my brother-in-law;" Cuoq, "beau frère d'homme, le frère de ma femme, le mari de ma soeur;" Lemoine, "beau frère entre hommes;" Speck (*n'i·ta*) "my wife's brother."[47]
    (2) Man's male cross cousin: ms. I (*nita8is*), "mon cousin;" ms. II, also "cousin" but without specific reference; ms. IV, "fils du frère de ma mère," "mon cousin" (ait vir); ms. V,

---

[44] Who undoubtedly derived considerable assistance from Thavenet's manuscript.

[45] Thavenet believes that this word is a contraction of *agikwe*, "femme alliée." Cf. Cuoq, *Lexique*, p. 46.

[46] We gather from Thavenet's remarks that the latter was a purely vocative form.

[47] Probably husband's sister, too, since there is no other term listed.

''cousin de fr. et sr. v fr. mari''; André, ''mon cousin de mère;'' Cuoq (*'ta8is*), ''cousin d'homme;''[48] Lemoine, cousin, ''entre hommes.'' It is of interest that Speck reports that the River Desert Algonkin use *ni·tawas* today for ''father's brother's son,'' man or woman speaking. This indicates a breakdown of the older differentiation of cousins and, at the same time, overrules the former usage of this term between males only.

B. Ottawa

(1) Man's brother-in-law: André (*ni'taouis*), ''le fils de ma tante moy estant homme;'' Jaunay (*nita8is*), ma cousine[49] (dit l'homme); Morgan (*ne-tä'-wis*) father's sister's son, mother's brother's son (man speaking); Blackbird (*nitawis*), ''cousin.''[50]

C. Ojibway

(1) Man's brother-in-law: Chamberlain (*nita*), brother-in-law (also friend); Morgan [No. 40, *nĭtä*, No. 41, *ne-che-ké-wä-ze* (my old friend),[51] Nos. 42–44, *ne-tä*] man's sister's husband, man's wife's brother;[52] Baraga, ''my brother-in-law (man speaking);'' Wilson (*nétah*), ''brother-in-law;'' Jones (*nīʿta*) ''brother of my wife;'' Radin (*nita·*) ''my wife's brother, my sister's husband'' (man sp.); Speck (*nĭ'ta*), brother-in-law; Hallowell (*ni'táʿ*) man's wife's brother, man's sister's husband; Johnson (nin-m),[53] ''brother-in-law.''

(2) Man's male cross cousin: Morgan (No. 40, *nĭ-tä'-wiss*, No. 41–44, *ne-tä'-wis*), man's male cross-cousin; Baraga (*nitáwiss*) ''my cousin (a male speaking);'' Wilson (*ne-táh-wis*) cousin, male speaking; Jones (*nīʿtā wis*) ''the son of my father's sister, the son of my mother's brother;''[54] Radin (*nitá-wis*) ''my paternal aunt's son, my maternal aunt's son'' (male speaker); Speck, the term is not given; Hallowell (*nitawɑs*) man's male cross-cousin;[55] Johnson (*nitawis*) male cousin.

Sapir[56] derives both of the foregoing terms from Algonkin *-ista-*(*w-*) which ''seems to have meant primarily 'man's brother-in-law; wife's sister's husband.' " If so, cross-cousin marriage would explain the extension of the primary form of the term + the diminutive suffix[57] to a man's male cross-cousin as a secondary development. This interpretation is further supported by the fact that the stem in question does not appear as a characteristic element in the cousin term of other Algonkian languages, except where these are likewise connected with brother-in-law terms.

---

[48] *Etudes* and *Lexique*.

[49] This is either a mistranscription on my part or the single exception to the use of this term between men only.

[50] P. 92.

[51] A significant exception, since the connotation of the term is linked with the more extended meaning of the usual term. Cf. Thavenet (Algonkin) and Chamberlain (Ojibway).

[52] Also, man's father's sister's daughter's husband, man's mother's brother's daughter's husband.

[53] A unique and undoubtedly a recent innovation if *nī·ta* is actually obsolete.

[54] It is also stated as ''the relationship between sons of a brother and sister.''

[55] So far as I can judge, this term is not in frequent use now at Lake Nipissing. It was necessary to prompt Simon Commanda in order to obtain it. Other speakers, however, were acquainted with the term, despite the fact that the distinction made between cousins has largely broken down. This fact helps to explain why it was that Speck failed to record it at Lake Temagami.

[56] *op. cit.* pp. 27–28.

(3) Sibling-in-law of opposite sex + suffix = cross cousin of opposite sex = sweetheart

(1) Sibling-in-law of opposite sex

A. Algonkin

Ms. II (*nirim*) "belle-soeur, soeur du beau frère;" ms. V. "ma belle sr., fm̃ de mon f. ou la fm̃. de mon c." In this ms. the specific inclusion of "cousin's wife" is noteworthy; André, "ma belle-soeur dit le mary;" Thavenet writing the stem *-nim* explains its usage in some detail as connoting "beau frère" or "belle soeur." "Ce mot," he says, "exprime l'alliance qu'il y a entre deux personnes de différent sexe dont le frère de l'une est mari à la soeur de l'autre, *ninim,* mon beau frère, le frère, de mon mari . . . le mari de celle dont je suis soeur . . . ma belle soeur . . . la soeur de ma femme, . . . la femme de celui dont je suis frère;"[58] Cuoq repeats, almost word for word, the first sentence of the above in his *Lexique,*[59] while in his *Etudes,*[60] he explains the use of *ninim* in the sense of "ma belle-soeur" as including "la soeur de ma femme" and "la femme de mon frère" and "le frère de mon mari" or "le mari de ma soeur" in the sense of "mon beau-frère;" Lemoine is less specific. He simply refers to the use of the term as proper "entre homme et femme" in the relation of siblings-in-law. The same term is still in use today at Maniwaki[61] and it is also one whose phonetic equivalents have a wide provenance in Eastern Algonkian languages.[62]

B. Ottawa[63]

André (*ni'lim*), "la soeur de ma femme, la femme de mon frère;" Jaunay, "ma belle soeur ait vir;" Morgan (*nenim*), wife's sister, man's brother's wife, husband's brother, woman's sister's husband."

---

[57] -(*w*)*i·s,* an element frequently employed in the composition of derivative terms.

[58] Thavenet also submits the equivalent descriptive terms, "*niwicwitikikwan,* la soeur de ma femme" and "*nimissesonâbéman,* le mari de ma soeur (dit une femme)."

[59] P. 275.

[60] P. 140.

[61] The vocabularies from Golden Lake and Grand Lake Victoria are defective in respect to sibling-in-law terms.

[62] Appearing as *nitim* in Cree-Montagnais and *niləm* in the Wabanaki languages.

[63] Instead of introducing the term for cross-cousin of opposite sex at this point it is more convenient to continue with the term for sibling-in-law in Ottawa and Ojibway and then take up the cross-cousin term in conjunction with that for "sweetheart."

C. Ojibway

Chamberlain (*nīnim*), sister-in-law; Morgan (No. 40, *nī-nim*, No. 41–44, *né-nim*), wife's sister, man's brother's wife, husband's brother, woman's sister's husband; Baraga, "my brother-in-law (female speaking), my sister-in-law (male speaking);" Wilson, sister-in-law (male-speaking), brother-in-law [presumably female speaking]; Jones, "sister of my wife, brother of my husband;" Radin, wife's sister, man's brother's wife, husband's brother, woman's sister's husband; Speck "sister-in-law;" Hallowell, man's sister-in-law, woman's brother-in-law; Johnson, brother-in-law.

(2) Cross-cousin of opposite sex = sweetheart

A. Algonkin

The term for *ma cousine* which consistently appears in all of the old manuscripts is *ninim8chens.*[64] Its connection with the sibling-in-law term just discussed is clear. It contains the stem of this term plus the same suffix[65] which was utilized in the composition of the term for woman's cross-cousin, as compared with woman's sister-in-law. That it applied to a cross-cousin follows from the distinction between cousins we have already noted.

This usage receives additional substantiation from the fact that in manuscript IV "fille du frère de ma mère," is given in explanation of the term. In the same document it is also indicated that this term may be employed by a woman, presumably in addressing her male cross-cousin.

The evidence for the equation, cross-cousin = sweetheart,[66] is found in manuscript V where "ma cousine, ma maitresse" is written after the term in question, as well as in André, where an additional meaning "mon serviteur" is given. In Abbé Thavenet's manuscript dictionary there appears the following explanation of *-nimucej*:—[67]

> -"cousin-germain, cousine-germaine le mot se dit d'un homme relativement a une femme, et d'une femme relativement à un homme, l'un enfant du frère et l'autre de la soeur."

It is the most explicit statement we have concerning the use of this term reciprocally between cross-cousins of opposite sex, but nothing is said about employing it in the sense of *maitresse*. An interpolated statement immediately following the above, apparently by another hand than Thavenet's, seems to indicate that the semantic content of certain terms was being remolded in some respects, perhaps by a decadence in the custom of cross-cousin marriage itself. At any rate, someone thought it necessary to explain in respect to this cross-cousin term that

---

[64] In manuscripts I and IV the third letter is probably an *r*, in the others it is clearly *n*. This is intelligible in view of what we now know of consonant shifts in Eastern Algonkian dialects. Whether this evidence, and there is more of it, indicates the actual presence of an *r* in the language of this period is a question aside from our subject, but it seems desirable to mention it in passing. There is another orthographic detail which may as well be referred to here. It is the manner in which the letters we have written *ch* are formed. That these are the proper equivalent I learned from M. A. Fauteux, librarian of the St. Sulpice, Montreal, whose keenness in the interpretation of old French handwriting together with his specialized knowledge of old documents, were great aids to me. In manuscript V the term is written *ninim8sens.*

[65] Probably a double diminutive in Algonkian-Ottawa and a simple diminutive in Ojibway.

[66] In seventeenth century French this word did not necessarily imply an illicit relation.

[67] This document is the earliest of the Algonkin series in which there is an approximation to contemporary phonetic orthography. Later students such as Cuoq and Lemoine follow him closely in this respect.

> ''il prend maintenant dans un tout autre sens celui d'amant, de maitresse, procus celuis qui recherche une fille en mariage.''

Still later, in Cuoq's time, it was evidently a ''morally'' hazardous term to employ at all since, after giving it as one of three terms for cousin,[68] he remarks:—

> ''mais ce dernier mot n'est guère plus en usage, et il faut bien se garder de l'employer; car maintenant; il serait pris dans un tout autre sens que son sens primitif.''[69]

That the change in the meaning of the term was in a direction which tended to emphasize a potential or actual sexual relationship, instead of the designation of a blood relative, is what Cuoq evidently had in mind. In his *Lexique,* after referring to the latter meaning, which he says is the true sense of the term, a word of caution is again sounded in respect to its usage, for now, he writes, ''il se prend plutot dans le sens d'amant, d'amante, de fiancé, de fiancée.'' This statement, it will be noted, contradicts the interpolation in Thavenet which was evidently made at an earlier period. We can reconcile both of these remarks, however, if we adopt the view that cross-cousin marriage did actually prevail among the older Algonkin and that in the course of time this custom broke down. This hypothesis, in other words, explains the original quality in the meaning of the term itself and the documents we have just reviewed indicate a transitional period during which we have a process of semantic change clearly exhibited to us. Since in the original meaning of the term marriage, as well as kinship was implied,[70] it became extremely difficult to separate these two aspects of its content at later periods when marriage between cross-cousins no longer took place. Consequently, Thavenet's commentator emphasizes one pole of its usage and implies at the same time that some persons evidently had the other meaning in mind, whereas Cuoq, thoroughly conscious of the older meaning, finds that the newer one is gaining ground. In Lemoine's *Dictionnaire,* which was published in 1909, we find this term along with others given in the old sense of "cousin" and also for sweetheart" [*amant*(*e*)]. But the trend away from the use of this term in the kinship vocabulary of the Algonkin that Cuoq noted and which must have begun with the consciousness of its dichotomous meaning, did not reach its culmination until later in the present century, if we may judge from the vocabularies collected in the last few years from the surviving Algonkin speaking groups.

---

[68] The others being terms reciprocal between men and between women respectively.

[69] *Etudes,* p. 139. He goes on to point out that ''pour suppléer au mot ''*nimocenj*'' *brother and sister terms* may be used and, in order to avoid ambiguity, that two descriptive words are added. One has the feeling that this usage is a comparatively new innovation.

[70] A fact clearly brought out by Cuoq in his *Lexique* where *wenimocenjindidjik* e.g. is rendered as ''les personnes que' se recherchent en marriage.'' Since the stem *-nim* occurs in the relationship term, for sibling-in-law of opposite sex and because there is sufficient evidence to indicate the former practice of levirate-sororate customs among these peoples, I venture to say that the idea of living together in a sexual way, or at least certain prerogatives, may also be implicit in the sibling-in-law term, as well as in that for cross-cousin.

The old term for cross-cousin, that is to say, has completely disappeared from the kinship vocabularies of the River Desert Band,[71] at Golden Lake,[72] and at Grand Lake Victoria,[73] to name those from which we have recent information. It would be hardly expected then, in view of these facts, that any trace of cross-cousin marriage would be found in these groups today, even if it had been practised in the eighteenth century and earlier. These peoples have always been close to the frontier of white civilization since the first settlement of Canada and this fact, together with missionary influence, must have been important factors in the break-down of their old marriage customs. In respect to the old term for cross-cousin our guess would be that it is still in use by these bands or, it would be recognized by them, as a word for "mistress," "lover" or "sweetheart." This, at least, was my own experience at Lake Nipissing (1927), to which I shall refer when discussing the same term among the Ojibway.

B. Ottawa

In André's manuscript *nilimouchens* is given as the term for the sister of *nitaouis.* This latter word, although not so specifically explained as it might be, is nevertheless the usual term employed reciprocally between male cross-cousins in Ottawa, Algonkin, and Ojibway dialects. Consequently the application of *nilimouchens* is clear. What is more significant, however, is the repetition of this term, following which is the phrase "celuy qui me cherche en mariage procus."[74] This is surely tantamount to a specific statement that cross-cousin marriage must have been practised.

In Jaunay we have the same term explained as "mon cousin, dit la femme" and in Morgan, *ne-ne-moo-shă′* appears as a cross-cousin term used reciprocally as in Algonkin, between males and females. Fortunately enough then, the oldest Ottawa manuscript gives us the necessary clue to its primitive usage and confirms and extends the conclusion we drew from the Algonkin material.

---

[71] F. G. Speck, 1927 (Maniwaki).

[72] F. Johnson, 1927.

[73] D. S. Davidson, 1927.

[74] Latin, "one who asks," hence "a wooer, suitor."

C. Ojibway

Owing to the fact that no Ojibway manuscripts are extant which parallel in their antiquity those which we have utilized in the case of the Algonkin and Ottawa, let us first call attention to the cognate forms of the term for cross-cousin which appear in the available vocabularies.

No term for cousin appears in Chamberlain's Mississauga vocabularies but we have not examined the document in Toronto from which he obtained much of his published materials. Hence the earliest published vocabularies which contain Ojibway equivalents to the term in question are those of Morgan, to which may be added Baraga, Wilson,[75] and Radin. In all these cases, except that of Wilson, the usage of the term as reciprocal between cross-cousins of opposite sex is indicated, but there is no hint that a similar word might be used for "sweetheart." In a manuscript of William Jones, however, *nīnimucä*^{n} appears both as a term for cross cousin and "my sweetheart."[76]

In view of this fact, together with the direct testimony which we have previously cited, it would be difficult indeed to deny that cross-cousin marriage was not formerly practised by Ojibway-speaking peoples. Doctor Michelson, I believe, was the first to draw attention to the fact that there was a hint in their kinship terms to this effect, but he did not push the matter further.[77]

Consequently, it seems probable as in the case of the Algonkin, that where this characteristic term for cross-cousin does not appear in kinship vocabularies collected within the last few years, that we have evidence of a realignment of the older vocabulary and pattern of usage, to say nothing of the disappearance of the marriage custom which originally gave the term its socio-psychological setting. This would be my interpretation of Speck's Temagami material from which it appears that parallel cousins are no longer systematically differentiated from cross-cousins, the the brother and sister terms, plus a suffix, being extended to all cousins. The one exception to this usage appears in the case of the older term for woman's cross-cousin, but even this word is apparently not as strictly employed as formerly, it being applicable to parallel cousins.

I found a similar situation at Lake Nipissing (September, 1927) where inquiries as to the usage of *ninīmucę* for cousins caused considerable amusement since this word is now entirely divorced from any idea of relationship and passes as an equivalent for "sweetheart, lover." It was only from the lips of Simon Commanda, said to be between eighty and ninety years old, that I obtained the word as a relationship term. Similarly, in a kinship vocabulary obtained by Mr. Frederick Johnson at Depot Harbor, Ontario, August, 1928, the only words given for cousin are those which are cognate to the older terms among the Algonkin and Ottawa for man's cousin and woman's cousin and parallel cousins are no longer distinguished from cross-cousins.

---

[75] P. 199, given for male cousin. It is impossible to draw any conclusions in respect to the differentiation of cousins from Wilson's material. Although he gives terms for "lover" and "sweetheart" they show no resemblance to "*nenemoosha.*"

[76] Written without the final *n*. Doctor T. Michelson has also called my attention to this Ojibway equation in a letter (Feb. 1927).

[77] Michelson, T., Notes on Fox Mortuary Customs and Beliefs, *Fortieth Annual Report, Bureau of American Ethnology*, 1925, p. 376.

It would thus appear from the foregoing material that changes for which we had somewhat better historic evidence in the case of the Algonkin show a parallel trend among the Ojibway. Only in the latter case we apparently had the persistence of cross-cousin marriage in some bands up until the nineteenth century. In both cases, however, it seems probable that the breakdown of the distinction between cousins must have been subsequent to the decadence of cross-cousin marriage. The detachment of the old term for cross-cousin from the kinship system, but the retention of it as a word for "sweetheart," represents the culmination of a socio-linguistic process brought about by the impact of an alien system of marital ethics upon these northern hunters.

(4) Son-in-law plus suffix = cross nephew

A. Algonkin

(1) Son-in-law: manuscripts I, II, IV, V. (*nining8an*); Thavenet, Cuoq, Lemoine (*-ningwan*); Speck, (*niŋgw'ɑn*). This last term is now used for daughter-in-law also.

(2) Cross nephew: manuscript II (*niningonis*);[78] manuscript V (*nining8nis*) Thavenet, Cuoq, Lemoine (*-ningwanis*).

At Maniwaki, the only term recorded by Speck for *both* niece and nephew was *ndózɑmɑs,* although a descriptive term meaning "my sister (her) son" might be employed. The former term is one which consistently appears in all of the manuscript vocabularies and other sources for parallel nephew; the equivalent term for parallel niece being *nicimis.* It seems plain, therefore, that the present-day usage of the River Desert Algonkin offers testimony from which we must conclude that the ancient kinship pattern is breaking down. Cross-nephews and nieces are no longer distinguished from parallel nepotics; sex is no longer differentiated and descriptive terms have made an appearance. All of these features represent marked departures from the usage indicated by the manuscript data and the dictionaries of the nineteenth century.

B. Ottawa

(1) Son-in-law: André ("*nilingouem* vel *nilingouam,* mon gendre"); Jaunay (*ni'ling8al*); Morgan (*ne-nin-gwan*).

---

[78] "fils de ma soeur," presumably man speaking. The use of the diminutive suffix in the composition of the cross-nephew term in Algonkin, Ottawa, and Ojibway, is unequivocal.

(2) Cross nephew: André (*niningouali*) "mon nepveu, fils de mon frère moy estant femme, le fils de ma soeur moy estant homme.;" Jaunay (*nĭling8ali*[79] (*s*); Morgan (*ne-nin-gwi-nis′*).[80]

It will be noted that the term recorded by André lacks a final *s* and that the same consonant in the vocable given by Jaunay appears in parenthesis. In the latter case I am fairly certain that it is present but in the André manuscript it is clearly absent. Since the final *s* is part of the diminutive suffix the matter is of importance. It is not impossible that the form given by André is correct, but in view of all the other cognates of this term and the principles of Algonkian word formation it would appear to be aberrant.

C. Ojibway

(1) Son-in-law: Chamberlain (*niningouan*); Morgan (No. 40, *nĭ-nín-gwän;* No. 41–44, *ne-nín-gwun*); Baraga (*niningwan*); Wilson (*neningwun*); Jones (*niningwan*); Radin (*niniŋgwá·n*); Speck (*niniŋgw′an*); Hallowell (*ni·ningw′an*); Johnson (*ningw′an*).

(2) Cross-nephew:[81] Morgan (No. 40, *nĭ-nin-gwä-niss;* No. 41, *ne-nin-gwuh′nis;* No. 42–44, *ne-nin-gwi-nis′*); Baraga (*niningwaniss*);[82] Jones (*niningwanis*);[83] Radin (*niniŋgwańi·s*) Hallowell, (*nīniŋgwani·s*). Speck gives but a single nephew-niece term (*nindo'jimɑs*) which elsewhere refers primarily to parallel nephew, but sometimes parallel niece. Johnson records the same term for nephew, there being no distinction drawn between parallel and cross-nephew. Evidently the Ojibway of Timagami and Depot Harbor are tending in the same direction as the Algonkin at Maniwaki; the old distinction between nephews is no longer made and in both cases it is the distinctive term for cross-nephew, allied to that for son-in-law, which has been lost, whereas the parallel nephew term persists and has been extended in usage. Is this not just what one might expect if there is no longer any sociological support for the older usage? The cross-nephew now falls into a "nephew class" instead of receiving a designation which

---

[79] This word was exceedingly difficult to decipher but it is one of three nephew-niece terms given and although cross and parallel nepotics are not distinguished the other terms *ni'chimis* and *nit8'chimis* correspond to those recorded elsewhere for cross-niece and parallel niece-nephew, respectively.

[80] The appearance of *l* for *n* in the older documents may or may not indicate a real consonant shift during the historic period.

[81] In Chamberlain's Mississauga vocabulary (1902) an aberrant term (*anicwini*) is given for nephew.

[82] It is inferred that this term is meant for cross-nephew since in the English-Ojibway section, *nindojimiss*, appears. Since this latter term is used for parallel nephew, by analogy from other Ojibway vocabularies, we may assume the distinction indicated.

[83] "The son of my sister," presumably "man speaking" since the preceding terms are given from this standpoint.

indicates a psychological linkage with a son-in-law. This hypothesis also supports the primary character of the son-in-law term which persists without modification in usage.[84]

Further evidence for the former significance of the son-in-law cross-nephew equation is suggested by the fact that Thavenet says that *-ningwaniso* means ''aller chercher de la viande'' and that if one says *ki ningwanis* it signifies ''tu vas queru le chevreuil qu on a tué.'' If we accept this interpretation it harmonizes perfectly with the hypothesis that the extension of the term for son-in-law to cross-nephew represents a linguistic usage which implies a sociological matrix of some sort. Even today we have many cases among the northern and northeastern Algonkian where a man hunts with his father-in-law and may even inherit his hunting territory. If cross-nephews formerly became sons-in-law, the application of a term to them which carried a meaning content of the sort noted above, would seem to be a very plausible hypothesis indeed.

(5) Mother-in-law + suffix = Father's sister
(Father's sister + suffix = Mother-in-law)

A. Algonkin

(1) Mother-in-law: Manuscript I (*nisigos*), ''ma belle-mère;'' manuscript IV (*nisig8s* [?]) ''b. mère;''[85] manuscript V (*ni'sig8s*) ''soeur de mon p. v. belle m.;'' André (*nisigoussis*) ''ma belle mère;'' Mackenzie (*nisigousiss*); Thavenet, ''une fem. est *sikosis* relativement à son gendre, à sa bru;'' Cuoq repeats this statement;[86] Speck (*nzígwəs·əs*); Johnson (*nzígosis*); Davidson (*nizigwes*).

(2) Father's sister; Manuscript I (*nisig8sis*) ''tante, soeur de mon père,'' Manuscript II, ''soeur de mon père;'' Manuscript IV, ''p. tante, belle-mère;''[87] Manuscript V (*nisig8s*) ''soeur de mon p. v. belle m.;'' André, (*nisigoussis*) ''ma tante de père;'' Thavenet (*-sikus*); Cuoq (*-sikos*). At Maniwaki *nzí·gwas* is one of two synonyms for ''aunt,'' either paternal or maternal; the other word (*ninucéc*) being the older term in Algonkin, Ottawa, and Ojibway, for mother's sister only. This extension and overlapping of the original terms for ''father's sister'' and ''mother's sister'' is no doubt a modern phenomenon which parallels the English-French pattern. The same feature holds true for the Golden Lake Band. At Grand Lake Victoria Davidson reports a unique term for ''aunt.''

---

[84] Except at Maniwaki.

[85] Cf. term given for ''father's sister.'' The last syllable of this term appeared to be crossed out. But, on the other hand, it may represent an attempt to add a final *-is*.

[86] *Lexique*, p. 368, note 2.

[87] It should be borne in mind that in the languages under discussion mother's sister = step mother so that there is no equivocation in the meaning of *belle-mère* when used as above.

It is *nimŏ'ce·s,* probably a derivative of the term for father's brother.[88]

B. Ottawa

(1) Mother-in-law: André (*nisigoussis*), ''ma belle-mère dit le mary la femme, le dit aussi de la mère de son mari;'' Jaunay (*ni'sig8ssis*); Morgan (*n'-za-gwa-gis'*).

(2) Father's sister: André (*nissigous*) ''la soeur de mon père;'' Jaunay (*ni'sig8s*); Morgan (*nis-sa-gosé*).

C. Ojibway

(1) Mother-in-law: Chamberlain (*nisicoussis*); Morgan (No. 40, *nĭ-sĭ-gó-sis,* No. 41, no term, No. 42, *n'-za-gwä-ziś,* No. 43, *ne-zeke-ziś,* No. 44, *n'-za-gwä-ziś*); Baraga (*ninsigosiss*); Wilson (*ninségosis*); Jones (*nizigusis*) ''the mother of my wife or husband, the sister of my mother-in-law;'' Radin (*nizik'si·'s*); Speck (*ni·zík^{w}ɑsis*); Hallowell (*nzíg^{w}sis*).

(2) Father's sister: Morgan (No. 40, *nin-sĭ'-goss,* No. 41, *ne-ze-gŭś,* No. 42, *ne-see-gośs,* No. 43, *nis-zee-gŭss,* No. 44, *nis-sa-gose*;[89] Baraga, (*ninsigoss*); Wilson (*ninsegóos*); Jones (*nizigus*); Radin (^{n}*sigos*); Speck (*nizi·'g^{w}ɑs*);[90] Hallowell (*nzi'gwɑs*) Johnson (*nzi'gwus*).[91]

Sapir[92] believes that this term originally connoted father's sister, mother-in-law being

> ''clearly the secondary meaning, as shown by the striking fact that in *both* Ojibway and Micmac it is the simple diminutive that means 'paternal aunt' while the double (derived) diminutive means 'mother-in-law.'''

Sapir, however, advances no hypothesis to account for this extension in usage, but since the terminological equation which results is one which is consistent with cross-cousin marriage, the question arises as to whether the application of the term to both relatives may have been a result of this form of mating in the case of the Algonkin, Ottawa, and Ojibway and probably the Potawatomi.[93] I am not entirely convinced, moreover, that Sapir is correct in maintaining that the original meaning of the term connoted father's sister rather than mother-in-law, especially in view of the fact that in all of the dialects studied in this paper the primary terms are consistently those which designate the in-law relationships while the composite terms are those employed for blood relatives. As we have already pointed out, this implies that the extension in usage has been from the former to the latter groups. The evidence for this is clear in all of the other cases but is contradictory in the case of the mother-in-law—father's sister term, because in the modern usage it is the term for mother-in-law, as Sapir points out, which carries the double diminutive. But, in the oldest series of manuscripts, we find the contrary usage in I, II and IV[94], while in V the double diminutive is lacking in both forms[95] and in André's manuscript it appears in both. In the latter's Ottawa-Algonkin manuscripts, however, the modern usage is given.

---

[88] The older term for this relative is *nimicomenj,* a word related to that used for grandfather, *nimicomis.* The term which Davidson gives for ''uncle'' is *nimicómes.*

[89] These terms are identical with those employed for ''mother's brother's wife'' with the exception of No. 43 for which *nis-za-gwis* is substituted. It is unfortunate that we do not have sufficient information to carry the equation, *father's sister = mother's brother's wife,* through our discussion, as it is important to our argument.

[90] This term is used as a synonym since it is stated that *ninucec* is preferable. (Cf. our Algonkin section on father's sister). The latter can even be used now for mother's brother's wife. It looks as if *nizig^{w}ɑs* might even disappear from their kinship vocabulary except in its diminutive form as ''mother-in-law.''

[91] In this band *ninucec* has disappeared from their kinship vocabulary and the above term is used for ''aunt'' in the English sense.

[92] P. 25.

[93] In the case of the Cree, Old Montagnais (manuscript data) Micmac, Arapaho, and Gros Ventre (Sapir, *op. cit.*) I am not prepared to maintain an analogous interpretation, unless it can be shown that cross-cousin marriage was a very old Algonkian institution. But,

Now it may be, of course, that the forms in Manuscripts I, II, and IV were mis-recorded but there is little doubt but that these vocabularies were compiled by different individuals and they rank among the oldest records we have of any Algonkian language. If we do take them at their face value, it would appear from the variability which occurs in the use of the double diminutive in connection with the term for mother-in-law—father's sister, that the modern usage had not become crystallized, and that there are even indications that the reverse usage was in favor. At any rate it is clear enough that, if we also take cognate terms for mother-in-law which occur outside of the Ojibway, Ottawa, Algonkin group into account, the forms *without* the double diminutive are very widespread.[96]

Another fact, which I think should be taken into consideration, is the much wider distribution of the independent

---

on the face of it, this equation appears to be of significance in view of the fact that we nowhere find a coincidence in the terms for mother-in-law and *maternal aunt*. If chance alone were operative one might expect this equation to appear as well, since I see no psychological necessity for the equating of father's sister with mother-in-law. It only becomes intelligible in view of the marriage custom in question. Even in modern times, where the old term for mother's sister has been extended to paternal aunt in some bands, this term is never used as to include mother-in-law. In fact, the term for mother-in-law has been one of the most stable vocables in all of the groups studied.

[94] Both terms occur in manuscripts I and IV. In manuscript II only that for ''father's sister.'' It is significant that the double diminutive for father's sister also appears in two Montagnais manuscripts of the seventeenth century.

[95] Similar to the Cree usage of *nisikus,* for both relatives (Lacombe, A., *Dictionnaire et Grammaire,* 1874).

[96] E.g. Among the Cree, all the Wabanaki peoples (except the Micmac) and according to Morgan's schedules, among the Delaware, Munsee, and Mohegan (Mahican).

use of the mother-in-law form of the term[97] than its independent equivalent for paternal aunt.[98] And, if stability may be utilized as an indication of antiquity, the mother-in-law form has also shown much greater tenacity in modern times than its usage for paternal aunt in practically all of vocabularies with which I am acquainted.

In short, while I do not believe that there is an altogether conclusive argument for either hypothesis, it does seem that there is a trifle more to be said in favor of the primary meaning[99] of _*sĕkw-ĕss_ (_*–zĕkw-ĕss_) as mother-in-law than as father's sister. It does not seem unlikely, _e. g._, that since the Algonkin, Ottawa, and Ojibway like the Wabanaki, use the diminutive of _nokam_ for grandmother, and also employ a cognate form of the Old Abnaki grandfather term, that originally, they too, employed _nokum_ as a term for father's sister but substituted the mother-in-law terms for it under the influence of cross-cousin marriage. Finally, if in-law terms have been extended to blood relatives as a rule rather than the reverse, this explains why we never find any form of _nokum_ utilized for paternal aunt _and_ mother-in-law in any of the Algonkian languages.

(6) Father-in-law, mother's brother and father's sister's husband.

It is a striking fact that, despite the equivalence of father's sister and mother-in-law, we do not find the logically parallel equation of mother's brother with father-in-law. All of the Algonkin, Ottawa, and Ojibway terms recorded for the latter relationship may be reduced to what Sapir[100] considers to be the original Algonkian stem _–sil–_, _–si·l–_ (_*-zil-_, _*zi·l_) with diminutive suffix- _ess._ Thus in Algonkin Manuscripts I, II, IV we have _nichinis,_ in Ottawa (Jaunay) _ni'chilis'_ and in modern Ojibway _ni·-jinsi·s_ (Radin, Speck).[101] On the other hand, the terms for mother's brother are reducible to Ur-Algonkian _*–si–ss_ (_*–zi–ss, Ji–ss–_) or possibly _–sa–ss–_ (_*–za–ss–_), _–ss–_ being, again, diminutive.[101] In Algonkin Manuscripts I, II, IV this term is written _nichichens,_ in V, _nichisens;_ in André Ottawa vocabulary _nissichens,_ in Jaunay _ni'chichens._ In modern Ojibway it appears as _nijicä_ (Radin).[102] It would appear, therefore, that we are dealing with two distinct terms applied to different kinsmen, neither of which can be reduced to the other.

Nevertheless, there is an interesting and perhaps significant exception to which attention may now be called. In Algonkin Manuscript V the term _nichisens_ is explained as "_fr. de ma m. v. mary de ma tante_

---

[97] In Penobscot, Abnaki, Malecite, Passamaquoddy, Mahican, Munsee, and Delaware.

[98] Among the Sauk, Fox, and Kickapoo.

[99] Sapir, _op. cit._

[100] p. 26.

[101] Sapir, p. 22. He utilizes the forms which occur in Cree-Montagnais; Fox, Kickapoo, Ojibway, Delaware, Natick, Penobscot, Abnaki, Arapaho, and Gros Ventre.

[102] Other Ojibway equivalents may be found in the sources given in our introduction.

pat. v. beau p. de la fm̃. ou du mary.'' Here we *do* have evidence of the equation *mother's brother = father-in-law* as well as the further extension to father's sister's husband. This is the only case in the manuscript documents where a term for father's sister's husband is given at all and even in the more recent vocabularies a term for this relationship is rarely found. It is indeed paradoxical that while this is the only case we have in which the usual term for mother's brother is applied to father-in-law the evidence for the equation mother's brother = father's sister's husband, is found in Morgan's more recent Ottawa and Ojibway schedules.[103] At Timagami Speck also found that *nicicec* was used for father's sister's husband as well as mother's brother.[104]

This last equation, however, may not be of any great significance since with the limited number of terms employed for parent's siblings in any kinship system, their spouses are usually designated by terms which apply to the former. Thus, in the kinship vocabularies under discussion, it might perhaps be expected that the husband of the father's sister would be designated by the term for mother's brother unless a distinct term were conventional. On the other hand, if cross-cousin marriage were practised and matings took place more or less regularly between the children of brothers and sisters, a man marrying *either* his mother's brothers' or his father's sister's daughter and a woman the reverse, the father's sister's husband would be personally identical with the mother's brother in some cases and likewise the father's sister would be the wife of the mother's brother. Rivers, in particular, has stressed this equivalence of personal identity as the basis of the linguistic equations of this type which are sometimes found.[105] In the present case, I should hesitate to emphasize this possibility to the exclusion of the factor of limited possibilities in relationship designation. At the same time the former alternative should not be entirely thrust aside in view of the other evidence for cross-cousin with which it is in theoretical accord.

(7) Daughter-in-law and Cross-niece.

Theoretically, one would expect the equation, daughter-in-law = cross-niece, to occur in these languages, as it is the logical parallel of the terminological identification of son-in-law with cross-nephew. But, unless we attempt to reduce the stems of both terms to a common original form we must consider them distinct. There is, however, a significant contradiction to the above statement in Andrés *Dictionnarie Algonquin* where *nissim* not only appears as ''bru'' (belle-fille)[106] but as a term for niece, ''fille de ma soeur'', in addition to the two usual terms for parallel and cross-niece. If we assume that a man is speaking, which seems likely since the term immediately preceding it is the one for man's parallel niece,[107] we have evidence for the extension of the term for daughter-in-law to cross-niece.

---

[103] Ottawa, *ne-zhish-shă′*; Ojibway No. 40 *nĭ-ghĭ-she,* No. 41, 42 *ne-zhe-sha′*, No. 43, 44 *ne-zhe-shá*, No. 43, 44 *ne-zhish′shă.*

[104] But this fact is minimized by the modern extensions in usage and other terminological realignments which have taken place in this band.

[105] Rivers, W. H. R., *Kinship and Social Organisation*, 1914, pp. 21–22.

[106] This term, with minor differences in orthography, consistently appears in all the available sources. An important synonym is *ninahánganikwÈm,* which is given in Manuscript V, by Cuoq and Lemoine (Algonkin), by Jaunay (Ottawa) and also is found in Ojibway (Baraga). Speck also found it in use at Lake Timagami and gives as the literal meaning ''my pleasing, satisfactory woman'' and I recorded it at Lake Nipissing.

In respect to terms for the latter relationship, the testimony of our manuscript sources presents difficulties of interpretation which cannot be entirely overcome, since the sex of the speaker is not always indicated and inconsistencies are evident, even in the same manuscript. At the same time, there is no doubt whatsoever that parallel nieces were distinguished from cross-nieces and we find the same terms recorded which, in later documents, are consistently differentiated in this manner. In modern Ojibway, for example, the term for cross-niece is *nicimi·ś·* (Radin) while in the oldest Algonkin documents it is written *nichimis,* the terms for parallel niece in both cases being the equivalent of step-daughter.

Sapir, in his analysis of Algonkian terms for cross-niece,[108] introduces terms for daughter-in-law from a number of dialects in his series, including the Ojibway term which is identical with the Algonkin and Ottawa forms. He reconstructs them to Algonkin *–*ssĕmi*–, ''niece; daughter-in-law.'' Without disputing the validity of Sapir's reconstruction, the historical identification of the stems in the terms daughter-in-law and cross-niece might appear to be connected with cross-cousin marriage. This may well be the case if we assume a considerable antiquity for this form of mating. But the evidence available is not of a character which enables us to settle this question. The possible relationship between the term for daughter-in-law and cross-niece, it seems to me, is categorically distinct from the problem which arose in the other equations examined, where a superficial analysis was sufficient to show that suffixation was the process by which the composite terms had been built up out of the simple ones, with no trace of internal changes in the stems involved. Besides, we know very little, as yet, about the way in which kinship systems have developed in particular linguistic stocks. Consequently the socio-psychological significance of the basic forms to which two or more terms can be reduced in any linguistic stock is one of those remote and tantalizing questions which may be treated separately from the subsequent phonetic modifications, or extensions in usage of relationship terms, which have taken place in particular languages. Of course it may turn out that certain reconstructions, in so far as they can be shown to represent an actual kinship pattern, were correlated with sociological facts, but this matter is too hypothetical for immediate discussion.

In the case in question, the terms which Sapir reduces to a single radical are ostensibly distinct in their connotations in so far as we have any evidence at all and, with the one exception given, there has apparently been no tendency to apply either term, or any derivative, to the relationship connoted by the other in the Algonkian, Ottawa, and Ojibway languages.

---

[107] ''*nitouchimikouem,* la fille de mon frère dit l'homme.''

[108] p. 23.

IV

The material presented in the foregoing section represents the concrete data upon which we have based our inference concerning the former practice of cross-cousin marriage by the North-Central Algonkian. It would be interesting to speculate further upon the possible conditions which brought about this form of preferential mating among these northern hunters, but this problem may be postponed until other Algonkian relationship systems have been analyzed and possibly additional knowledge gained from historic sources, or even field investigation. All that we maintain in the present study is that a sociological interpretation of the terms in question is a rational explanation of these linguistic facts. They *appear* to be reflection of a marriage custom which was practised by the Algonkin and Ottawa speaking Algonkian in the seventeenth century, and probably by the Ojibway. How well intrenched this custom was in the culture of these peoples it is, of course, impossible to say, but *ex hypothesi* it must have been practised in a considerable proportion of cases. Granting that this was the case, how are we to account for the complete absence of cross-cousin marriage among the North-Central Algonkian today? To my mind, the most plausible explanation lies in the conflict which must have taken place between the sex mores of the aborigines and those of the Europeans with whom they came in contact. Cousin marriage has long been the focus of a taboo in European culture and it has been notably discouraged by the Catholic church. In its extreme form an infringement of this taboo may even be considered tantamount to incest.

Now it is known that marriage was one of the earliest native institutions to be brought within the sphere of missionary influence. Consequently, it is inconceivable that the Catholic missionaries should have ignored the practice of cousin marriage, once they discovered its existence. And the knowledge of kinship terms evidenced in the early manuscripts which we possess, makes it clear that they could not have been uninformed in respect to this custom. It seems quite legitimate, therefore, to assume that they made some attempt to change the native *mores*. In respect to this point, Doctor J. M. Cooper writes me as follows:—

> "Missionary influence would no doubt have been exerted strongly against both (or either) parallel or cross-cousin marriage without distinction. Even dispensations would have been rare, except in the very beginning, in order to validate the already existing marriages of new converts."[109]

It therefore seems reasonable to conclude that, if the Catholic missionaries brought pressure to bear upon the aborigines in some such manner, this influence, consistently exerted, would have been sufficient to bring about a reduction in the number of cross-cousin marriages, finally resulting in a decline of the institution itself. Lastly, evidence of radical changes in the kinship terminology of these peoples, as exhibited in the present-day usage of the Algonkin of the River Desert band, the Temagami, Grand Lake Victoria, and Lake Nipissing bands, may be partially interpreted in terms of our hypothesis.

---

[109] Doctor Cooper adds that he found one such dispensation for cousin marriage in an early marriage record at the Catholic mission at Maniwaki.

If the relationship terms under discussion were originally in some functional connection with cross-cousin marriage, changes in terminological usage might be expected to follow the decline of this custom. That is to say, the decadence and final disappearance of cross-cousin marriage prepared the way for new usage of the old terms because the custom itself, as long as it existed, must have acted as a conservative force in the perpetuation of the accompanying terminology. Once this conserving force was removed the old terminology could be re-adapted to new conditions. The Algonkin term for cross-cousin of opposite sex is the only example of this process for which we have any documentary evidence. But the other modern usages to which we have called attention offer positive evidence for other significant departures from the older pattern of connotation. Their variability is striking when compared with the marked unanimity in usage to which the old Algonkin and Ottawa manuscripts testify. It is the latter which offer the best linguistic evidence for the practice of cross-cousin marriage.

POSTSCRIPT

After the foregoing study was completed and its conclusions orally presented at one of the sessions of this Congress, I learned from Doctor W. D. Strong, shortly after his return from a fifteen-month sojourn in northern Labrador, that he had discovered cross-cousin marriage among the Barren Ground band of the Naskapi. Since this is the first time that an ethnologist has reported this custom among an Algonkian people, and as it happens in this case, a marginal and relatively isolated group, this discovery adds considerable weight to our historical deductions. In view of the fact that the methodology we have employed has so frequently been called into question in recent years, I have preferred to allow the text to stand as originally written and to call attention to Doctor Strong's discovery here, instead of in our introductory section.

UNIVERSITY OF PENNSYLVANIA,
PHILADELPHIA.

NOTE ON FOX GENS FESTIVALS[1]

By Truman Michelson

EVERY Fox gens has one or more festivals which belong to it. In the spring and summer these festivals are performed in bark-houses, though today planks replace the bark almost entirely. In the winter the festivals are performed in wigwams of rush, and there is no dancing. This note concerns itself with the spring and summer festivals, most of which I have witnessed many times, and upon which I have abundant material, some of which has been published. Although traditionally each Fox "gens festival" is supposed to be the result of direct revelation, there is ample evidence to show that all follow the same general pattern; and any Fox "modernist," not to speak of any ethnologist, would be justified in his scepticism. So, for example, the festivals are held in the same kind of building; the singers (including the drummer) are located on the south side, the smokers on the north side; the musical instruments are drums and gourd rattles (hoof-rattles are used when the Bear gens gives the Thunder dance; and notched sticks, in place of rattles, are used in at least one festival of the Wolf gens), not counting the whistles (flutes) blown by the leaders of the dances; there are four dances and three eatings, the main feast occurring after the third dance (not counting the feast of those giving the festival after all have gone); the use of inviting-sticks is universal; the appointment of ceremonial attendants from fixed gentes, with the Dirty Ani society of the Thunder gens often being equated with a gens, the gentes selected being naturally different in any given case, despite the fact that there are general rules governing the reciprocal functions of the gentes (*e.g.*, Bear and Eagle; Thunder and Bear; War Chiefs and Wolf): thus when the War Chiefs Worship The Wolf, the head ceremonial attendant will be a member of the Wolf gens, the three others being a member of the Bear gens, a member of the Thunder (Feathered) gens, and a member of the Dirty Ani society; when there are two head ceremonial attendants one will belong to each of the tribal moieties, and may be bound up with a special gens (*e.g.*, in the Great Gens festival of the Bear gens when the *Sāgimaʿkwäw*ᴀ sacred pack is present) one head ceremonial attendant is a *Tōʿkān*ᴀ and belongs to the War Chiefs gens, another is a *Kīʿckōʿ*ᴀ and belongs to the Eagle gens; in all these festivals a sacred pack is present and is located centrally towards the western end of the building; the butchering and preparation of dogs (singeing them and scraping them; cutting off the tails, feet, etc.) the night before the festival and placing them on scaffolding; cutting up the dogs the morning of the festivals (when the Wolf gens gives its festivals dogs are not used, nor when the War Chiefs gens worship the Wolf) is practically universal; holding the festivals during the daytime, not at night (with rare exceptions) is universal; there is a mound of earth towards the western end of the building with four feathers on it, two white and two red (common if not universal); the general arrangement of the kettles is the same (each kettle is used for a definite purpose); the gift of dogs' heads to distinguished members of definite gentes is usual (see above), and sometimes the Dirty Ani and other societies are equated with gentes (formerly when the War Chiefs worshipped the Wolf a bear's head was used); today a hog's head is substituted; four women "who sit and represent," two of each moiety, the *Kī̆ᶜkō* women being on the south side, the *Tō̆ᶜkān* on the north side, are located each in a corner; an eating contest is common (Great Sacred Pack ceremony of the Thunder gens; *Aᶜpenäwänäᶜ*ᴀ sacred pack ceremony of the Thunder gens; Thunder dance of the Bear gens); frequently the dancers (at least the men) dance facing each other, the tribal moieties being on opposite sides, the *Kī̆ᶜkōs* being on the south side, the *Tō̆ᶜkāns* on the north side (Thunder dance of Bear gens; Great Gens festival of the Bear gens [*Sāgimāᶜkwäw*ᴀ sacred pack]); War Chiefs worship the Wolf; War Chiefs raise the (British) flag; the upright poles within the building are often painted with a bar of clay; there is fumigation of the sacred pack with evergreen (or cedar); tobacco is ordinarily cast at the base of the upright poles within the building; usually dead puppies lie flat on their bellies with their heads towards the east and who serve (theoretically) as messengers are located slightly in front of the sacred pack, and on both sides of it; the same types of songs are used for the feasting and dancing, respectively; the speeches consist of formulas (such as prayer for long life, freedom from disease, that chief's village may be secure, maledictions on the foe, for "one slice" *i.e.*, a slain foe) combined with the mystic word *nō̆*^{d}*tc*^{ir}, which formulas and mystic word occur over and over, and often a brief ritualistic origin myth is recited; the wearing of buffalo fur on the head and tails fastened on a belt is common (in buffalo dances), and the wearing of oak leaves in the hair is also frequent. All this shows that these festivals consist of more or less the same material combined in slightly varying ways. The heterogeneous character of the elements which when combined make these festivals is clear. For example, the dedication of a dog's head to distinguished persons is widely spread and exists entirely independently of these ceremonies. And feasts connected with sacred packs without the consumption of dog meat occur among the Omaha. On the other hand, it should be noted that there are or were counterparts to these Fox festivals among the Sauk, Kickapoo, Prairie Potawatomi, Ottawa, Iowa, and Winnebago.[2]

---

[1] Printed with permission of the Secretary of the Smithsonian Institution.

Bureau of American Ethnology,
    Washington, D. C.

---

[2] See *Fortieth Annual Report, Bureau of American Ethnology*, Washington, 1925, pp. 502, 503; *Bulletin 85, Bureau of American Ethnology*, Washington, 1927, pp. 56, 101, 102, 121–124; *Bulletin 87, Bureau of American Ethnology*, Washington, 1928, pp. 5–8; and also Introduction to *Bulletin 89, Bureau of American Ethnology*, Washington, 1929.

SOME CHEROKEE METHODS OF DIVINATION

By Frans M. Olbrechts

THIS paper is based on data obtained during a field-trip in 1926–1927 and deals with some aspects of divination as practised at present by the Cherokee of North Carolina. The trip was made under the auspices of the Bureau of American Ethnology, Smithsonian Institution, and of the C.R.B. Educational Foundation, Inc., New York City.

Since it will not be possible to make even a cursory survey of the whole subject covering the beliefs and practices pertaining to divination as at present in vogue with the Cherokee, I will confine the contents of this paper to those methods in which an endeavor is made by active mechanical means to obtain information on objects or events hidden in time or in space. Beliefs in omens and portents will therefore not be touched upon here.

This restriction made, the subject can best be discussed under three headings:—

A. Divination as such.
B. A divination which not merely purports to discover, but which at the same time endeavors to influence the course of future events.
C. Methods of divination, that can be called ''traditional.''

A. Divination as Such

The object of this kind of divination is, as a rule, to find out, first, the whereabouts of lost persons, animals, or objects. In the case of lost persons, it is also possible to ascertain whether they are alive or dead.

To determine the direction in which the search has to be started, whenever a person, a head of cattle, or an object has wandered away, without leaving any trace, the general procedure is to use a small fragment of red ocher (hematite; in Cher.: *wɔ·'dĭ*[1], i.e., ''reddish-brown''). This, by the way, is the same mineral which is pounded and used for war paint and for love-attraction medicine by the Cherokee, as by so many of our tribes. The fragment, not bigger than a small-sized thimble, is tied to some string or thread, usually of white color, and 25 to 30 cm. long. The free end of this string is held between the thumb and the index finger of the right hand, while the left hand with the fingers extended is held—apparently in quite an innocent way—in front of the right one. I feel convinced, however, that this position of the left, merely serves the purpose of shielding the movements of the right hand.

After a formula has been recited in which an appeal is made to the ''Brown Stone, the one who always tells the truth, the one from whose keen sight, scrutinizing observation, and piercing intellect nothing ever escapes,'' the stone, dangling from the end of the string starts a pendulum-like motion, almost imperceptible in the beginning, but gradually gaining momentum. The direction in which the soothsaying stone sways most violently—other informants say: the direction in which it *starts* swinging—indicates the direction in which the search has to be started; after having walked some distance in that direction—maybe a mile, maybe a hundred yards only, according to the whim or the knowledge of the diviner—a halt is called, and the ceremony is repeated; the bearings of the object of the search are taken again, eventual errors are corrected, and the chase proceeds.

---

[1] All Cherokee expressions appearing in this paper belong to the Central Dialect.

If, as in the case of a person who has been lost in the mountains or in the forests, and whose return has been expected in vain for a number of days, his relatives want to find out whether he is still alive or whether he has perished, the same divinatory instrument is used, but the procedure is somewhat different.

A handkerchief or a piece of calico is folded so as to cover a space of about 10 cm. by 10 cm. It is put on the ground, in front of the diviner, and at the far end, away from him, a small lump of bread is placed on the cloth; on his near side, a piece of charcoal, taken from the fire. The piece of ocher, fastened to a thread as already explained, is put down exactly between the two, and after a formula has been recited, the hematite is suddenly lifted by the free end: the direction it first swings in when raised, indicates the fate of the subject of the ceremony; the bread symbolizes his being alive, the charcoal his (mostly tragical) death.

Lost objects or animals may also be located by a method of botanomancy: two or four stalks of grass (Cher.: *kʽanɛ·'ska*) about 7 to 8 cm. long, or the same number of tiny twigs of the same dimensions, are stuck upright between the thumb and index finger of the extended hand; immediately after the recitation of the formula they are seen to quiver and to reel; the direction in which they droop, again indicates the whereabouts of the lost article.

The methods used to ascertain the future span of one's life are many and varied; death and disease are forever present in the Cherokee mind and the more conservative members of the tribe will not fail to consult the future on this score at least once a month, with every new moon.

The most common procedure is what they call "examining with the beads" (Cher. *sö·nι·ḳtʽa dι'ktʽɔ.tiˋ; aDɛ·'lɔ̃ⁿ dι·'ktʽɔ.tiˋ*). Formerly, only white seeds of plants, some of them artificially dyed red or black, seem to have been used (*sö·nι·ḳtʽa*), but these are being completely superseded by the imported glass beads (*aDɛ́·'lɔ̃ⁿ*). The procedure is as follows: The diviner takes a black bead between thumb and index finger of the left and a red or white bead between the same fingers of the right hand. After the never-neglected formula the beads start moving along the first two phalanges of the index; the black bead is identified with death, illness, calamity, the red or white with life, health, happiness, success. According to which of the two beads shows the greater vitality, the subject will live or die.

This ceremony can be gone through to get a very general answer, as: Will the client live to be old, or will he die young? In this case the procedure is as has just been described; or again, some more definite answer may be sought, such as: How many more years has the consultant to live? In this case the only difference in the procedure is that the ceremony is gone through seven consecutive times. If the "life-bead" proves to be the stronger every time, i.e., should it show more liveliness and vitality in its movements, the client's life for a period of seven years, at least, is safely assured; and beyond this period of seven years Cherokee inquisitiveness into the future is never protracted. Should the "black bead" assert its superiority, however, after the fourth or fifth trial, the evidence is ample and conclusive: the client has only that many years to live.

The following is a method which is only found associated with the one just described:—

When, on the occasion of the new moon, every member of the household goes down to the river's edge, accompanied by the priest, they all stand gazing into the flowing stream. The priest recites the formula for long life, which contains seven paragraphs. If, during the whole of the ceremony, nothing floats near the bank, a span of life of seven more years at least is considered certain. But if, during the recitation of, e.g., the third paragraph, anything at all should be carried along by the current: a cluster of leaves, a branch or a twig, or even a fish, the member of the household, for whose particular benefit the formula was being recited at that time, knows that within the same number of years there is serious trouble in store for him.

We now come to another practice, which is the more interesting since it is not confined to the Cherokee alone. Everybody knows that crystal-gazing can boast of a far-flung distribution.

The mineral in use amongst the Cherokee must have been a quartz-crystal, somewhat smaller than an egg, which probably had some other mineral inclosure, possibly hematite, in it. For reasons that will appear presently, no more accurate description of it can be given. The name of the crystal in Cherokee is: *vlɔ̋ⁿˋʿ.sùDɔ̋ⁿ′*, the literal meaning of which has a qualifying value and is best translated: "it is transparent." The same expression is used when describing a beam of sunlight before it strikes a surface.

Mythology accounts for the origin of the stone: it was carried on its head by the Horned Serpent, so conspicuous in Iroquois mythology, and was killed after many unsuccessful attempts by a brave warrior of a neighboring tribe. Tradition is not quite distinct as to the number of Horned Serpents that existed and is therefore equally confusing as to the number of *vˋlɔ̋ⁿʿ.sù′Dɔ̋ⁿ* stones. Some hold that there has only been one *vlɔ̋ⁿˋʿ.sùDɔ̋ⁿ′* in existence and that it is now irretrievably lost, as the last possessor did not choose to hand it on to any successor. Others there are who pretend that there may have been as many as five or six specimens; that, in fact, in the days of yore, every really powerful wizard boasted of one, but that in the course of time they were all lost. Be that as it may, one thing is certain: there have been at times several leading medicine-men simultaneously claiming that they were each and severally the proud possessor of a stone.

There is now no Cherokee living who claims to have a stone in his keeping or even ever to have witnessed a ceremony in which it was used. There is no doubt, however, as to what was the procedure: the diviner gazed at the stone fixedly for a few minutes, after which he saw it filled with a streak of whitish, milky fluid, or else with a vein of blood, the latter proclaiming the imminent death of the client. This mode of divination was extensively practised before parties set out on the warpath and the very human course was followed of keeping at home those whose death was prophesied by the crystal.

Finally, a method of life divination is used, which, by its nature, is very much akin to what we usually call an ordeal. Seven fragments, each about 2.5 cm. long of the *kʻànasɔ.ʹlə,* a plant with poisonous properties, are chewed and swallowed one after another. If you manage to dispose of the seven doses without suffering from the effects, you are booked for seven more years of life at least. Should you become drowsy and intoxicated after, e.g., the fourth root, you know thereby that your lease on life expires after four years.

B. Divination of the Future

We now reach the second series of methods, in which we invariably find, along with the divinatory objective, a coercive element to further our aspirations, to realize our desire.

Das Ewig-Weibliche, Love, is the motive that has inspired the Cherokee to create some of their most poetic formulas and some of their quaintest divination methods.

Love divination and love attraction are in many cases merged together to such an extent that they can hardly be told apart. The method most practised is that with the beads and is practically identical with that described under "life-divination."

The left-hand bead is the girl's and from its vitality or the sluggishness of its movements we can tell whether she cares for the consultant or not.

Another procedure in which the beads are used is the following: water is scooped out of the river with a dipper and the two beads are gently placed on the surface; if the beads float in different directions, or if one of them sinks, the effort to win the girl's affection will not be successful.

Or again, two or four bits of *vˋnɩstilɔ̃*$^{m\cdot}$*ɩ.sti* root, a variety of *Lapula* (stickseed), each about 7 to 8 cm. long are rubbed together between the palms of the hands; should the roots, after having been rubbed, show tendencies to move towards each other, or should they stick together, the love-sick client is assured of success. Various other plants are used in the same way.

In this group also belong two methods used to gain information on the outcome of illness. The first is again similar to the procedure with the beads; the second which is only used in one kind of disease, known to the Cherokee as *Dalɔ·ʹni* (i.e., yellow), which covers various disorders of the digestive organs, consists in taking an emetic, going to the river and throwing up; should the vomit sink, the patient is doomed; but if it floats, not only is he sure of recovery, but it is imminent. This is also widely practised in European folk medicine, but the elements it contains are so obviously and purely Cherokee that there is no need to explain it by diffusion.

Next worthy of mention are the ceremonies by which we "work" against an enemy, as the Cherokee put it. Here the procedure is once more the examination with the beads, which has already been described in detail.

A very interesting mode of divination is the one which is used to find out whether somebody who is trying to overcome an enemy by witchcraft is going to succeed; where the witch is located, etc. The smouldering ashes of the hearth are raked to one side and nicely piled into a neat little cone-like heap. ''Old Tobacco'' (Cher. *tsɔ·'l=aGayö·'li*), *Nicotiana rustica* L., is used and a tiny pinch is dropped over the smouldering ashes: the side of the cone where a particle of the tobacco dust flares up shows the direction whence the witch is coming; the distance of the flare from the center of the little mound, gives the comparative distance of the worker of evil; and should the tobacco dust by any chance cling together and land on top in the center of the ashes, it will flare up with a loud burst: this shows that the witch was right in the house, though invisible; in this case the explosion of the tobacco dust kills the witch.

Hunting divination hardly differs in method from the one just described: the ashes are prepared in the same way and the tobacco is dropped over them. To show how much the Cherokee believe in doing things thoroughly, I want to point out that by this one ceremony they manage to discover four very important things simultaneously; viz.: Whether or not they will kill; where; when; what. If there is no flare, it is a sign that there is no game in store for them this time and no Cherokee will proceed on the hunt after having received such an answer. The places on the ashes where a particle of tobacco catches fire inform him of the direction of the game. The fraction of time elapsing between the tobacco falling and its catching fire, gives him some idea as to the time: whether he will kill the same day, or only the next day, or, maybe immediately. Finally, if the fire answers with a loud burst, this means that the hunter will be so fortunate as to kill big game (bear, deer, e.g.), whereas a faint report indicates the killing of a mere rabbit, pheasant, etc.

To conclude this short survey, I now would like to devote a few words to what I have referred to as:—

C. Traditional Methods of Divination

These are references to divinatory methods in tales and myths, which are either utterly and physically impossible, or which, if ever they existed, have now been discontinued.

On page 319 of his *Myths of the Cherokee,* the late James Mooney, who has done such splendid work on this tribe, has a description of the very strange device which *nö·yu nuwi′* (i.e., ''Stone-clad''), a kind of cannibal, used whenever he wanted to stock up on some dainty morsel of human flesh: he had a walking stick which he pointed in a certain direction and then smelled it: by the smell of the stick he could then tell whether there were any people living in that direction. In a variant of this tale which I collected, he does not use a cane for this purpose, but his bone-like finger.

Of three more devices for ascertaining the span of one's life one is more fantastic than the other:—

a. To run or to punch seven consecutive times through (sic!) a tree!

b. During a storm, to go to a place where seven trees stand pretty close to one another; hit one with a hatchet and run; immediately, the ''thunder'' will strike it. Hit the second tree, toward which you were running in the meantime, and the Thunder will hit that one; and so on, seven times.

c. Go and see the same snake in the same spot once a year, for seven consecutive years.

All these follow the usual pattern: you are sure to live as many years as you have been successful.

A method that has a fairer claim to possibility, and even to probability, in spite of the fact that we find it in a tale that has a decided post-Columbian flavor, is contained in the tale of which an abstract follows:—

A long time before the white people came, a wise old man told the people that he would let them know what was going to happen: he set fire to an old decayed log that was lying in the forest. The fire, starting on the eastern side of the tree, veered to the west, and consumed the whole tree, save a small portion on its eastern side. "This meant," the old man said, "that the greater portion of the Cherokee would, at some time in the future, be driven away towards the west,[2] and that only a small remnant of the tribe would remain in the east."[3]

Finally, I should not omit my impression, that I found a few data that seem to indicate that at some more remote period the Cherokee practised hepatoscopy. The tremendous importance they ascribe to the liver of both humans and animals, the fact that liver is often offered ceremonially to the fire, and a couple of other practices seem to point in that direction. Nothing definite can, as yet, be advanced on this score, however.

There is not much to be added to the conclusions as I submitted them to be printed in the abstract: first, that, as a whole, Cherokee methods of divination confirm the evidence supplied by linguistic and other data which indicate that the migration of this tribe from the kindred Iroquois peoples must have taken place at a very remote period; second, that they have kept their beliefs and practices, pertaining to divination as jealously intact from European influence as their medical and botanical lore.

Kessel-Loo, Belgium.

---

[2] i.e., the Western (Oklahoma) band.

[3] viz., the Eastern (North Carolina) band.

THE NATCHEZ SOCIAL SYSTEM

By J. P. B. de Josselin de Jong

THE subject which I want to discuss briefly is one of the numerous ethnological problems the solving of which will ever remain more or less hypothetical, as a shortage of historical data can never be quite made up for by ethnological reconstruction.

In his masterly monograph on the Indian tribes of the Lower Mississippi Valley,[1] Dr. Swanton has put together all that is to be found concerning the remarkable Natchez culture in the writings of the French colonists of the eighteenth century and others; after that it is especially the social organization of the Natchez which has repeatedly been dealt with in ethnological literature. That we know comparatively little about this subject is not only owing to the deficient ethnological insight of our informants, but also to the carelessness characterizing all ethnographical descriptions of that time. Sometimes we have to begin by reconstructing the meaning of the authors, which, of course, makes still more uncertain the reconstruction of the facts described. It is not my purpose to bore you with a discussion of all the passages in the sources that are liable to various interpretations; I only want briefly to remind you of the most important points believed to be more or less doubtful, before considering the Natchez system as a whole.

The Natchez were, as is well known, divided into two social classes, the nobility and the commoners (called ''stinkards''). The nobility contained three ranks: *suns, nobles,* and *honored people.* The nobility formed an exogamous group, so each of its members had to marry a commoner. Class membership and rank passed from mother to child, however with this limitation, that the children of a father belonging to the nobility (having a mother from the commoners) fell into the next lower rank. Hence, children of a *sun* father were *noble;* those of a *noble* father *honored;* and those of an honored father *stinkards.* The divine king, named *great sun,* was succeeded by the son of his nearest female relative. Though this is not expressly stated in any of our sources, it is not to be doubted that the group of commoners was not strictly exogamous.[2] Besides, the sources are not perfectly clear as regards the exogamy of the *nobles* and the *honored people.* To the latter class belonged not only the children of *noble* fathers and those of *honored* mothers, but also commoners who, on account of certain merits, had been raised to the nobility together with their wives. It has been observed by Doctor MacLeod[3] that thus not much was left of the group exogamy of the *honored people,* as this group doubtless contained many married couples of which both husband and wife were *honored.* However, this does not seem to prove anything concerning the marriage regulations, nor does there seem to be any reason for not considering the *honored people* as belonging to the nobility properly so-called. That the *honored people* are not mentioned by Pénicaut can, in my opinion, have no importance, seeing that they are expressly mentioned by others, in the first place by Du Pratz. Indeed I am inclined, generally speaking, to attach less value to the statements of Pénicaut than has been done by Doctor MacLeod. Pénicaut states that the nobility "are no more esteemed noble at the seventh generation," and that only the "Three first families of nobles were interred in the temple." On the ground of these two statements Doctor MacLeod suggests

---

[1] Swanton, John R., Indian Tribes of the Lower Mississippi Valley and adjacent coast of the Gulf of Mexico, *Bulletin 43, Bureau of American Ethnology,* Washington, 1911.

[2] Cf. Swanton, *loc. cit.,* pp. 104–105, 107, 145.

[3] MacLeod, William Christie, Natchez Political Evolution, *American Anthropologist,* N. S., vol. 26, 1924, pp. 201 ff.

> that the royal family or Suns were limited to three degrees removed (matrilineally only) from the White Woman; children of even Sun women when three degrees removed falling into the Noble class and the progeny of these Noble women in three more generations falling further,—presumably into the Stinkard class, eventually with a stay of one or more generations in the Honored group.[4]

I think that this ingenious hypothesis is not to be accepted, as it is directly opposed to the express statements of our best informants that nobility was maintained from mother to daughter.[5] And if we consider the statements to mean that the groups of *nobles* and *honored people* were not exogamous, we must also assume that the progeny of a *sun* in the male line need not fall lower than into the rank of *nobles;* but as regards this point our sources are so explicit that nobody will assume this. I for one have come to the conclusion that the way in which this system has been formulated by Doctor Swanton[6] continues to be unchallengeable as it is supported by the best sources.

It is evident that the Natchez system is not to be explained from Natchez culture alone. Indeed, those who have studied this problem have always looked for points of connection in the cultures of neighboring population groups. Swanton[7] has already pointed out that the two Natchez classes, apart from their hereditary element, remind us of the war classes of Muskhogean tribes, to which, as he subsequently showed,[8] the Natchez were also closely related linguistically. Speck, more especially, compared the Natchez classes with the chief and warrior societies of the Yuchi.[9] Doctor MacLeod suggests that in the Natchez organization there has been a syncretion of two different organization types, *viz.,* a warrior grade type and an aristocracy of two grades.[10] On the other hand, Doctor Krickeberg sees in the Natchez system a specially developed form of the well-known social dichotomy into two exogamous phratries.[11] Indeed it will not be denied that the Natchez class system is allied—psychologically or historically or both—to the many other types of dual organization which are found in North America (and indeed outside North America). We often find one tribe dichotomously organized in more than one way. The Natchez themselves knew, besides the *social* dichotomy into nobility and commoners, a *ceremonial* dichotomy of all "warriors" into a red and a white group, which at the most important ceremonial festivities, in which the whole tribe had to take a part, acted opposite to each other, both in the ceremonial ball game and in a ritual sham fight for the person of the king. Then the king acted as chief of the white group and the war chief as head of the red group.[12] The Creek confederacy also knew two kinds of dichotomy.[13] The "towns" were divided into two groups, named "fires." One was red and associated with war, the other white and associated with peace. Here red was superior. The clans too were divided into two groups: the "whites" and the "people of a different speech." The latter two divisions were always opposed to each other in practice games, whereas "towns" of opposite fires acted in the great ball games. There was some connection between the two dichotomies, but this connection was rather loose and inconsistent. In each "town" by itself the clans living there were graded. For instance there were clans of chiefs and clans of second men. In Taskigi[14] the leading clans were Bear and Wind. From one of these had to be elected the town chief. When the different "towns" (or rather tribes) had not yet been incorporated in the confederacy, each of these tribes was probably divided into two phratries unequal in rank, while each of these phratries contained two or more graded clans. In a certain sense the function of the towns in the confederacy is to be compared with that of the clans in each town: the confederacy having been organized after the model of the former tribal town organization. Just as in the town (at least in Taskigi) four clans were held to be the principal ones, of which two were regarded as the real leaders, so in the confederacy four towns were higher than the others; two of them belonged to the red half and two to the white half.

---

[4] MacLeod, *loc. cit.,* p. 206.

[5] Cf. Swanton, *loc. cit.,* pp. 100 ff.

[6] Swanton, *loc. cit.,* p. 107.

[7] Swanton, *loc. cit.,* p. 108.

[8] Swanton, John R., Ethnological Position of the Natchez Indians, *American Anthropologist,* N. S., vol. 9, 1907, pp. 513 ff.

[9] Speck, Frank G., Ethnology of the Yuchi Indians, *Anthropological Publications, University of Pennsylvania,* vol. 1, 1909–1911, p. 78.

[10] MacLeod, *loc. cit.,* p. 214.

[11] Krickeberg, Walter, *Amerika,* p. 108 (in Buschan's *Illustrierte Völkerkunde,* 2 Aufl., I.).

Quite unconnected with the (matrilineal) clan organization is the (patrilineal) dichotomy with the Yuchi. This, namely, concerns the men only, who are divided into a chief society and a warrior society (the former being associated with peace, the latter with war). These two societies are opponents in the ceremonial ball game and stand, in general, in a more or less hostile relation to each other. At the great annual ceremonial festival the "chiefs" have to see to the medicine plants, the "warriors" to the dancing and the games. There is also some difference between the mortuary rites of the two groups. The chiefs are superior and show some inclination towards endogamy. The annual initiation rites mean initiation into the clan as well as into the society. It is, however, evident that the society grouping is overshadowing the clan grouping. Here too the clans are graded. Four are considered as being higher in social rank than the others. From these are elected the town chief, the four head chiefs of the ceremonies, and the medicine priest. A clan grouping into two phratries does not exist. However, it is thought desirable that two of the four chiefs of the ceremonies belong to two different clans. There is also a tradition mentioning a former dual organization: *viz.*, a grouping into "bear-hide people" and "wild cat-hide people."[15]

---

[12] Swanton, *loc. cit.*, pp. 111 ff., 117 ff.

[13] Swanton, John R., A Foreword on the Social Organization of the Creek Indians, *American Anthropologist*, N. S., vol. 14, 1912, pp. 593 ff.

[14] Speck, Frank G., The Creek Indians of Taskigi Town, *Memoirs, American Anthropological Association*, vol. 2, 1907, pp. 103 ff.

Very instructive is the state of things found by Speck among the Chickasaw.[16] Here the matrilineal graded clans are divided into two non-exogamous phratries, named respectively "their hickory chopping" and "their worn-out place." The former is superior. When the whole tribe is assembled the two phratries camp in a square east and west of a natural or an imaginary dividing-line north-south. From the leading clan of each phratry is elected the leading medicine priest of this phratry. Each clan has not only a definite rank in its phratry, but is also characterized by definite customs or achievements. The reason why this organization type is so instructive is that it forms an unmistakable link between the culture of the Southeastern tribes to which the Natchez belong and various cultures in other parts of North America which at first sight seem to show a strongly deviating character. Essentially the same type of social structure as that of the Chickasaw are, for instance, the well known one of the Iroquoian confederacy, and of certain Sioux tribes, as the Omaha and the Winnebago. That the clans of the Iroquois were matrilineal, those of the Omaha[17] and the Winnebago,[18] on the other hand, patrilineal, is of course irrelevant. And everybody who compares Morgan's and J. O. Dorsey's statements concerning the Winnebago with Radin's[19] will acknowledge that the differences between the Omaha and the Winnebago organizations are chiefly to be explained from the disintegrating influences to which the Winnebago culture was exposed during the period after Miss Fletcher's research among the Omaha. With all these tribes—and many others, no doubt—the backbone of the social organization is: the social dichotomy in two exogamous unilateral hereditary groups, one of which is held to be superior, and which complement each other functionally both in public religions and in social life, while a certain degree of rivalry and hostility seems to be inherent in their relations.

Now an important question is the following: are these various types of social organization, having in common that a certain social dichotomy performs an important function in them, to be considered as in a certain sense accidental products of historical processes, in which especially contact and diffusion have been factors of essential importance, or is there to be discovered in this variegated mass of culture phenomena a certain direction of development, a certain regularity, a certain norm? Of the highest importance seems to me the fact that the organization type, called by me for convenience sake, the Omaha type, is not only not specifically American, but belongs to the most common primitive organization types on earth. For the present I will only allude to the occurring of essentially the same type in southeastern Asia, New Guinea, Australia, and Melanesia. This may, in my opinion, be considered as an indication that here we have to do with something fundamental, with a culture phenomenon, that, it is true, cannot be called universal, as *e.g.*, magic, but yet, must be connected with certain universally human culture tendencies, and that, like *e.g.*, unilateral kinship grouping, must have spontaneously developed itself in different places. Now, when we consider that the Omaha type has been met among the Chickasaw and that among the Creek tribes it evidently formed the base upon which was built up the organization of the confederacy, it does not seem too hazardous to assume, as a working hypothesis, that in the whole region under consideration the Omaha type was at one time the predominant organization type. Then it is to be observed, in the first place, that among those tribes where the phratries do not exist any longer, or have altered their character, their functions have passed on, at least partly, to another dichotomy. The Natchez division of the "warriors" into white and red, the chief and the warrior societies among the Yuchi, the white and red "fires" (groups of "towns") among the Creek tribes, have functionally taken the place of former phratries, to a certain extent at least. As has been observed, this new dichotomy among the Creek tribes has not quite superseded the former dichotomy of clans. It is perhaps not superfluous to point out that this dual organization of the men is different from the "warrior grades," which also occur in this region. The Natchez knew three such grades (apprentice, ordinary warrior, and true warrior), and so did probably the Creek tribes, but there was, at most, a very loose connection between this warrior gradation and the dual organization into phratries or societies. However, it goes without saying that in the course of time these warrior grades and other kinds of gradation in the same community will be apt to mix. Possibly this has happened among the Choctaw.[20] They knew four ranks (*chiefs, holy* or *beloved men, warriors,* and a class of men who had not yet killed a grown-up male enemy). We do not possess sufficient data to conclude whether there was any connection between these four grades and the phratry and clan system of the Choctaw, but it seems likely that here warrior grades and social classes of the Natchez type have, to a certain extent, become amalgamated. From the accounts concerning the Natchez it is not to be concluded with perfect certainty whether the dichotomy of men into a chief (white) group and a warrior (red) group embraced only the nobility or also the commoners. If the social position of the commoners was really such an inferior one as is stated by our informants, they did not perhaps take a part in those important ceremonial games and fights. On the other hand, it is not to be doubted that by "warriors" were meant, in general, all men capable of bearing arms. Among the Yuchi, however, the two societies certainly embraced the whole male community and among the Creek the whole confederacy. So we see that we have by no means to deal with one homogeneous process of development, nor with three exactly parallel ones.

---

[15] Speck, *Ethnology of the Yuchi Indians*, p. 68 ff.

[16] Speck, Frank G., Notes on Chickasaw Ethnology and Folk-lore, *Journal of American Folk-Lore*, vol. 20, 1907, p. 50 ff.

[17] Fletcher, Alice C., and La Flesche, Francis, The Omaha Tribe, *Twenty-seventh Annual Report, Bureau of American Ethnology*, Washington, 1911.

[18] Radin, Paul, The Social Organization of the Winnebago Indians, an Interpretation, *Canada Department of Mines, Geological Survey, Museum Bulletin* 10, 1915; *Idem*, The Winnebago Tribe, *Thirty-seventh Annual Report, Bureau of American Ethnology*, Washington, 1923.

[19] Cf. Radin, *loc. cit.*

---

[20] Swanton, John R., An Early Account of the Choctaw Indians, *Memoirs, American Anthropological Association,* vol. 5, 1918, p. 53 ff. From the data collected by David I. Bushnell (The Choctaw of Bayou Lacomb, St. Tammany Parish, Louisiana, *Bulletin 48, Bureau of American Ethnology,* Washington, 1909, and Myths of the Louisiana Choctaw, *American Anthropologist,* N. S., vol. 12, 1910, p. 526 ff.) it appears that the Choctaw were divided into two exogamous phratries (*iksa*) and a number of exogamous clans (*ogla*); cf. also Byington, Cyrus, A Dictionary of the Choctaw Language (ed. by J. R. Swanton and H. S. Halbert, *Bulletin 46, Bureau of American Ethnology,* Washington, 1915) s. v. v. *iksa* and *okla.*

Therefore, we need not wonder that we find a no less important divergence as regards clan and phratry exogamy. Among the Creek, and likewise among the Chickasaw, the clan exogamy but not the phratry exogamy appeared still to exist: neither the ancient clan-phratries nor the recently superimposed "town"-phratries are exogamous. So the function of the ancient phratries as marriage groups has quite disappeared here. Among the Yuchi clan exogamy was still strictly observed, whereas only a vague tradition remained as a reminder of the former existence of phratries. So here too the only exogamous group is the clan. Lastly, as regards the Natchez: none of the ancient accounts mentions either clans or phratries. Yet it is not to be assumed that the Natchez, living amidst tribes with a matrilineal clan organization and being unilaterally organized themselves, should not have known clans. After their settling among the Cherokee they did have clans. Now it might be supposed that, by intermarrying with the Cherokee, they must have automatically formed part of the clan grouping existing among these people. It is, however, remarkable that, according to information obtained by Swanton, their clans agreed with those of the Cherokee as regards number, but not as regards name, whereas we do find their clan names among the Creek tribes.[21] In my opinion these facts sanction a conclusion entirely agreeing with the working hypothesis from which I have started: the Natchez did have clans, but at the time from which the ethnographical descriptions date those clans had lost so much of their importance as social units that they escaped the attention of the French observers. A strict clan system would indeed have been incompatible with the existing marriage regulations of the nobility.

We may, however, expect that, just as among other clans, here too the functions of the ancient more or less obsolete social groupings were relegated to other social organs, and, in connection with what we know of the clans of the neighboring tribes, it seems very probable that we have to see the continuation of certain clan traditions and clan functions especially in the exogamous subdivisions (the ranks) of the nobility. MacLeod has ingeniously argued that the group of *Suns* must have been a small matrilineal family group,[22] while Swanton rather seems to consider that unit as a clan.[23] Which of these two views is the right one is of minor importance, however. At any rate, the *Suns* formed an exogamous matrilineal kinship group, from which were elected the highest civil and military functionaries, and which had a higher status than all the others, and in so far it was not essentially different from the highest clans of the neighboring tribes. If this be so, it is hardly to be doubted that, in the two lower ranks of the nobility too, ancient clans continued to exist at least as regards some of their functions. But then we have to accept as unavoidable the conclusion that the exogamous nobility as a whole had in a certain sense replaced the ancient superior phratry, while the class of commoners had taken the place of the inferior phratry. The history of this process of development can, of course, not be reconstructed with certainty, but, in my opinion, there can hardly be any doubt concerning certain factors that have played a part in it. In the first place, the metamorphosis must have been furthered by an increasing antagonism and an increasing difference in social standing between the two phratries. Two things may have had a preponderating influence, namely, the social position of the *sun* group, which undoubtedly had always been very high, and the giving up of clan and phratry exogamy by the inferior phratry. So I believe that the decay of the ancient clan and phratry system began in the inferior phratry, which perhaps owed to this its detested appellation of "Stinkards"; and that the superior phratry responded to this with an increasing tendency towards oppression and social ostracism, which, in the long run, has led to the well-known relation between the two classes. In these circumstances the superior phratry could, of course, hardly accept the full consequences of the phratry exogamy, the strict observance of which it continued to maintain. Hence, the peculiar half-hereditary class and rank system, which, in my opinion, we have to consider as a compromise between the consistently sustained matrilineal class and rank exogamy (the ancient phratry and clan exogamy) and the spirit of caste which more and more overmastered the superior phratry. That the class of the nobility was indeed going to develop into a real caste appears very clearly from the strong tendency towards endogamy which began to reveal itself in this class.[24] Among the neighboring tribes too this tendency towards caste formation may be observed. It is likewise told of one of the two societies among the Yuchi, *viz.*, the Chiefs, that it showed a certain tendency towards endogamy,[25] and according to the scanty accounts concerning the Chitimacha this tribe possessed an endogamous class of nobility.[26] Nothing is known of phratries among the Chitimacha; so here too the ancient dual organization had apparently been altered to a dichotomy into nobility and commoners. On the other hand, the matrilineal clans had maintained themselves; four were remembered, but we do not know whether there was any connection between those clans and the dichotomy. It is not to be doubted that the mortuary customs of the Natchez nobility, which obliged the husband (or wife) of a member of their group to follow his (her) consort in death, formed a serious obstacle to discarding exogamy;[27] but that those customs should be the cause of the *exogamy* is not to be assumed. This would imply that the Natchez maintained an exogamy *sui generis,* a supposition which will certainly not be acceptable to any one.

---

[21] Swanton, John R., *Indian Tribes of the Lower Mississippi Valley*, p. 108.

[22] MacLeod, *loc. cit.*

[23] Swanton, *Indian Tribes of the Lower Mississippi Valley*, p. 174.

---

[24] See MacLeod, William Christie, On the Significance of Matrilineal Chiefship, *American Anthropologist,* N. S., vol. 25, 1923, pp. 514–515; *Natchez Political Evolution,* pp. 215 ff.

[25] See Speck, *Ethnology of the Yuchi Indians,* p. 77.

[26] Swanton, *Indian Tribes of the Lower Mississippi Valley,* p. 348 ff.

[27] MacLeod, *Natchez Political Evolution,* p. 221 ff.

An exhaustive culture psychological and culture historical study of the Natchez organization cannot be restricted to the examination of the phenomena evidently connected with it in America. Outside the New World too, not only social organizations of the Omaha type are frequently met with, as has already been observed, but similar processes of development may be seen going on in different places. Uncommonly illuminating, from this point of view, are, for instance, the social systems in the islands of San Christoval[28] and Ulawa[29] in Central Melanesia. In San Christoval the population in the west was divided into matrilineal clans with bird totems, in the east there were matrilineal clans with aquatic totems; these two groups met along the north and the south coasts. In the central part of the island, however, there was a non-totemic dual organization of the well-known type. The names of these two phratries: *Atawa* (this was superior) and *Amwea* also occurred among the clan names outside the central area. Besides, various other clans were either identified with or considered as a subdivision of one of those two. Essentially it comes to this, that by far the greater part of the population formed part, either in this indirect way or directly, of the dual organization. On the basis of other data too it is not to be doubted that the dual organization must, at one time, have embraced the whole island population, and that the totem clans had either disappeared in the central part or were of later origin in the rest of the territory. Especially in the west, but also in the central area, were to be observed phenomena which clearly prove that the dual organization had begun to develop itself in the direction of a caste system. The clan which in the western part was identified with the *Atawa* clan, and so, indirectly with the superior phratry of the central area, *viz.*, the *Araha* clan, was the clan of chiefs. Its male members were called *great men,* the female ones *high born women,* while the members of the other clans were called *men* (*women*) *of no importance.* In contradistinction to the other clans the *Araha* clan was by no means strictly exogamous; on the contrary, marriages *within* this clan were very common. And descent was not matrilineal, as among the other clans, but matrilineal or patrilineal, according to whether the mother or the father was *Araha.* The clan was strongly expanded by adoption.

As regards the phratries in the center: members of the *Atawa* phratry could not be made slaves, be killed, or be in any way humiliated. And though the two phratries were matrilineal and exogamous, yet an *Atawa* boy, adopted by an *Atawa* man, remained *Atawa;* he was then called "his father's younger brother."

In the neighboring island of Ulawa the population was divided into two main classes: *chiefs* and *commoners.* Among the chiefs, descent was patrilineal; among the commoners, it was matrilineal. Further, there was an intermediate class, containing the relatives by marriage of male *chiefs* who had married *commoner* women, and the children of a *chief* woman and a member of the intermediate class. At the time of Fox's research the intermediate group had apparently become a fixed class, for Fox states that members of the *chief* class then always married a *chief* or an intermediate. There were also matrilineal clans, but these had no names and seemed no longer to be of any importance.

---

[28] Fox, C. E., *The Threshold of the Pacific,* London, 1924.

[29] Fox, *loc. cit.,* p. 344 ff.

It seems to me that these and similar phenomena from a quite different part of the world are of the highest importance with a view to our understanding the development of the Natchez system.

So my conception concerning the Natchez system comes to this: I believe, with Doctor Krickeberg, that in the two main social classes, nobility and commoners, ancient exogamous phratries, though strongly altered, continue to exist, while I see a nascent caste system in the organization considered as a whole. The working hypothesis from which I started remains for the present a hypothesis; I for one believe that it is confirmed by the facts.

I must grant that my reasoning shows more of evolutionism than of diffusionism; indeed, I am afraid that the reaction that has followed the extreme evolutionism in ethnology is in danger of leading to one-sidedness in the opposite direction. In my conception of the growth of human culture there is no room for a dilemma: evolution or diffusion,[30] as I am convinced that the forces of evolution—if there is such a thing as evolution at all—are not less active in processes of diffusion than in undisputed cases of independent development. Ultimately diffusion—usually at least—is neither a *force* nor a *cause,* but a *symptom.* And the historical facts of contact and mutual influences, though helping us to reconstruct the outward history of culture, will never contribute much towards the solution of the essential problems, with which, indeed, they hardly bring us in touch. If it were irrefutably proved that the development of human culture can only be studied as a purely historical process, ethnology would, for me, not be a science any longer.

LEIDEN UNIVERSITY,
LEIDEN, HOLLAND.

DISCUSSION

BY JOHN R. SWANTON

Doctor Swanton said that, while Doctor de Jong's position might be correct, he felt doubt regarding it because it would mean the derivation of a number of different forms of social organization from a single highly specialized type. Thus the Creek Indians had clans with totemic names, phratries, and two kinds of moieties, clan moieties and town moieties; the Timucua of Florida had totemic clans and phratries but, so far as we know, no moieties; the Cherokee had seven—perhaps anciently fourteen—well recognized clans, but apparently no phratries or moieties; the Choctaw had no totemic clans, but instead clans or groups with place names and two non-totemic moieties; the Chickasaw had the same divisions as the Choctaw, but the local bodies were grouped under totemic clans and the moieties were endogamous rather than exogamous, like the town moieties of the Creeks; the Chitimacha had endogamous or true castes, apparently associated with totemic clans, while the castes of the Natchez were exogamous and there is no proof of totemic clans until after they settled among the Creeks and Cherokee. As far as we know, all of the Indians of the Southeast except the Yuchi had matrilinear descent, and among the Yuchi the clans were matrilinear, while the two great male societies were patrilinear.

---

[30] Cf., Boas, Franz, Evolution or Diffusion, *American Anthropologist,* N. S., vol. 26, 1924, p. 340 ff.

Bureau of American Ethnology,
Washington, D. C.

Rejoinder

By J. P. B. de Josselin de Jong

I perfectly agree with Doctor Swanton that none of the Southeastern tribes in question shows exactly the same social organization as the Omaha. I have pointed this out myself. But there is an unmistakable relationship between certain organization types in the Southeast and the Omaha type and we know, from general ethnological evidence, that this type is one of fundamental importance in the history of social structure. This seems to justify the working hypothesis that in the Southeastern Area of the United States too this organization type has been predominant in former times. If we study the various historical types from this point of view, much of the striking diversity becomes explicable. I have not expected that my working hypothesis would be accepted at once, but I certainly think that it is worth testing.

SOME ASPECTS OF SIOUAN KINSHIP

By A. Lesser

KINSHIP terminologies of the Siouan tribes fall into three primary groups, reflecting respectively what have been called the Dakota, the Omaha, and the Crow type systems of kinship nomenclature.[1] These groupings by kinship systems correlate among Siouan tribes with three distinct types of social organization,—the sibless local band of the Dakota tribes and the Assiniboin, the patrilineal exogamous moiety composed of gentes,—of the Winnebago, Thegiha and Tciwere tribes, and the matrilineal exogamous clan grouped into phratries of the Crow, Hidatsa, and Mandan. It is the purpose of this paper to analyze these types of Siouan kinship systems in relation to known social usages and to discuss their possible functional relation to the social organizations with which they appear to correlate. The tribes considered form a closely-related linguistic stock, within which variations are primarily dialectical,—with the most divergent, the Crow and Hidatsa.[2]

The Dakota is the simplest type of the three. It occurs among the Sioux for the Dakota bands[3] and the Assiniboin.[4] Elsewhere, it appears among northern Algonkian tribes, several Athapascan tribes of California, as well as among the Six Nations Iroquois and Wyandot.[5] With the exception of these Iroquois tribes, I believe it occurs nowhere with a sib organization.

As in use among the Dakota,[6] there is no emphasis in this system on either the father's or mother's side. The chief principle of the system is that two relatives of the same generation, who are related through parents of like sex, are as sisters and brothers, otherwise as cousins; or, put another way, the children of two brothers or two sisters are brothers and sisters to each other, and sons and daughters to either of the two parents, whom they call fathers,—or mothers, as the case may be. This principle is carried through with rigorous consistency.

---

[1] Spier, L., The Distribution of Kinship Systems in North America, *University of Washington Publications in Anthropology,* vol. 1, no. 2, p. 73. (Kinship distributions mentioned in this paper are in large part summarized by Spier.) Lowie, R. H., *Culture and Ethnology,* New York, 1917, p. 119 ff.

[2] Material on the isolated Siouan groups, as Tutelo, Catawba, Biloxi, and Ofo, is not complete. What we have, as Speck's Catawba MS., and the material on the Biloxi and Ofo of J. O. Dorsey and J. R. Swanton in *Bulletin 47, Bureau of American Ethnology,* 1912, indicates that we are dealing with different systems from those which occur among the central or main body of Siouan tribes. These have not been included in this discussion.

[3] Morgan, L. H., Systems of Consanguinity and Affinity of the Human Family, *Smithsonian Contributions to Knowledge,* vol. 7, Washington, 1870, pp. 293 ff.; J. R. Walker, Oglala Kinship Terms, *American Anthropologist,* N. S., vol. 16, 96–109, 1914; author's MS. on Teton Dakota terms.

[4] Morgan, *op. cit.*; Lowie, R. H., The Assiniboine, *Anthropological Papers, American Museum of Natural History,* vol. 4, part 1, 1909, pp. 36–38.

[5] Morgan, *op cit.*; Goldenweiser, A. A., On Iroquois Work, *Summary Report, 1912, Anthropological Survey of Canada,* 1913, p. 471.

[6] The discussion of the Dakota terminology is based chiefly on the author's own analysis of the Teton-Dakota, as yet in MS.

The immediate and obvious effects of this principle are: In the first ascending generation, the father's brothers are "fathers," the mother's sisters, "mothers," while the father's sister and mother's brother are distinguished; in the speaker's generation, the children of father's brothers and mother's sisters are "brothers" and "sisters," while the children of father's sister and mother's brother are distinguished, and in the first descending generation, a boy's brother's children and a girl's sister's children are "sons" and "daughters," while a boy's sister's children and a girl's brother's children are distinguished. But, furthermore, an extension of this principle to the "cousin" terms occurs, which makes the system internally consistent. Cousins of like sex, though there are distinct terms for them, function as would two brothers, or two sisters. Their children are "sons" and "daughters" to either of them. Cousins of opposite sex function as would a brother and sister: their children are again as "cousins" to each other and as "nephews" and "nieces" to their father's or mother's cousin of opposite sex. Above and below the first ascending and first descending generations, all consanguinities become either grandparents or grandchildren.

The essential distinctions of consanguinities in this system, disregarding for the sake of clarity of presentation relative age and sex, are: grandparent, parent, aunt-uncle, brother-sister, cousin, child, nephew-niece, and grandchild; this gives two conceptual distinctions in each of the three important generations, which two distinctions cohere with the principle of relationship through parents of like sex, that I have outlined.

In the Dakota system of affinities, the father-in-law and mother-in-law terms are related to those for grandfather and grandmother, while the child-in-law term is related to that for grandchild. Furthermore, while the use of these terms begins in the first ascending and first descending generations, rather than in the second, their classifications are extended upward and downward as would be those of grandparent and grandchild terms, so that parents of parents-in-law and spouses of grandchildren are included in these primary in-law terms. Brother- and sister-in-law terms are unquestionably related to those for the cousinships; in fact, the four cousinship terms are formed from the four brother- and sister-in-law terms by addition of a suffix *–ci*, whose exact linguistic meaning I have been unable to ascertain. Of these in-law terms of the speaker's generation, the terms *ciTc'ɛ'* and *hąKa'* bracket the joking-relatives to whom a reciprocal license is permitted, which usually ceases on the marriage of either to a third, unrelated party. These relatives are on the one side, a woman's sister's husband or husband's brother, and, on the other side, a man's brother's wife or wife's sister. The spouses of a cousin of like sex become *ciTc'ɛ'* or *hąKa'*, according to sex, and are included in the joking-relationship. Finally, the spouses of uncle and aunt are aunt and uncle, respectively, and those of nephews and nieces are as daughters- and sons-in-law.

Before turning from this brief recapitulation of the Dakota system to analysis of the Omaha and Crow types, I should like to urge that the Dakota system, from its disregard of any distinctions above the father's or below the son's generation and its failure to stress anywhere kin through the father, or kin through the mother, points rather than to any type of sib organization, to the bilateral family group, with which it is to be found essentially correlated. In fact, the distinctions which appear in three generations,—the first ascendent, speaker's, and first descendent,—following as they do from the principle of distinguishing the children of brother and sister from those of brother and brother or sister and sister, clearly emphasizes a simultaneous operation of the well-known and widely-distributed customs of levirate and sororate.

Another point might be urged. If kinship terminological customs are to interweave with permanent bifurcations of the social group, that is, with moiety or sib, kinship distinctions must produce kinship classifications which hold or are perpetuating throughout all generations. In the Dakota system, the distinctions are fixed to their respective generations; in early life consanguinities below the speaker's generation do not exist for ego; in old age, those above the speaker's generation have utterly vanished; in fact, in very old age, all distinctions but that of grandchild are likely to be lost. This is not true of the two other types to be discussed.

As a matter of fact, as earlier stated, the Dakota type occurs primarily for tribes without exogamic organization. The chief exception to this statement is its reported presence among the Iroquois.

But I should like to call attention to the fact that from Morgan's tables[7] only the Seneca appear to have the consistent Dakota system. Among other Iroquois tribes, the woman's brother's son and daughter are classified with the son and daughter, and conversely, both the man's and woman's father's sister with the mother. Thus, it appears that the Dakota principle of equating consistently children related through parents of like sex and distinguishing these not so related, does not hold for these other Iroquois groups. Evidently other factors are present and we are not faced with a bare inconsistency. In the Seneca case, the viewpoint here taken would logically imply the suggestion that Seneca kinship and social organization are fusions of unrelated systems, possibly different in origin.

The Omaha type of kinship system occurs for Siouan tribes for the Winnebago,[8] the Thegiha group including Omaha,[9] Ponca,[9], Quapaw,[10] Kansa[11] and Osage,[10] and the Tciwere group of Iowa,[11] Oto, and Missouri. Elsewhere, it occurs for all the Central Algonkians,[12] viz., Menomini, Sauk and Fox, Kickapoo, and the Peoria group of Peoria, Kaskaskia, Piankashaw, and Miami. The Shawnee case is not as yet clear and may be an exception. These tribes, with the Siouan tribes whose kinship usage is of this type, form, geographically, one continuous area of distribution.

---

[7] Morgan, *op. cit.*

[8] Radin, P., The Winnebago Tribe, *Thirty-seventh Annual Report, Bureau of American Ethnology*, 1923, pp. 128–134; and author's field notes.

[9] Dorsey, J. O., Omaha Sociology, *Third Annual Report, Bureau of American Ethnology*, 1885, pp. 252–255.

[10] Morgan, *op. cit.*; author's field notes.

[11] Skinner, A., Societies of the Iowa, Kansa, and Ponca Indians, *Anthropological Papers, American Museum of Natural History*, vol. 11, part 9, 1915, pp. 735–738, 766–769; author's field notes.

[12] Morgan, *op. cit.*; Skinner, A., Social Life and Ceremonial Bundles of the Menomini Indians, *Anthropological Papers, American Museum of Natural History*, vol. 13, part 1, pp. 32–34; Bloomfield, L., MS. of Menomini terms. Also personal information from Doctor T. Michelson; and author's field notes on Sauk and Fox, Kickapoo, and Piankashaw.

This is undoubtedly a diffusion phenomenon, but I think it must remain an open question as yet just what phases of this kinship-marriage-descent-exogamy complex were the diffused factors which were causal to the appearance of the others, or, on the other hand, whether the whole complex arose once, possibly in the Winnebago region, and was diffused or borrowed as a complex.

Outside of the region in question, the Omaha kinship type appears for another isolated area, namely central California. There it occurs among many of the Miwok,[13] Wintun, Yokuts, and Pomo tribes. Again its distribution is continuous.

Finally, an essential feature of the system appears among the Yuchi on the basis of recent information.[14]

So far as the Siouan tribes practising the system are concerned, they have all the same essential social organization, *viz.,* a division of the tribe into two patrilineal moieties, each with subsidiary gentes and sub-gentes. The two moieties correspond to two halves of the ceremonial camping circle, in which each gens and sub-gens has a fixed position. I am told by Doctor Michelson that all the Central Algonkin tribes, with the possible exception of the Shawnee, also have a patrilineal exogamic organization. Finally, of the California tribes with the Omaha system, the Miwok, Wintun, and Yokuts are patrilineal, but of these only the Miwok and central groups have exogamic divisions. The Yuchi alone are matrilineal. Let us see if the Omaha type is not a kinship system fundamentally related to patrilineal descent, and possibly to exogamy. Among Siouan tribes all the terms for consanguinities in Omaha type systems are linguistically cognate with corresponding terms of the Dakota group. Terms do not occur for cousinships, but the brother-in-law and sister-in-law terms from which cousinship terms are formed among the Dakota, are cognate with the parallel in-law terms of the Omaha group.

Briefly, the system agrees with the form of the Dakota so far as the father's brother, mother's sister, brother's children, man-speaking, and sister's children, woman-speaking, are concerned. These are, as normally, ''father,'' ''mother,'' and ''children.''

The great departure of the system is in the nomenclature of the cross-cousins. On the mother's side, the mother's brother is an uncle, as in the Dakota, but his children are again uncle and mother. Uncle-ship descends from the mother's brother indefinitely in the male line, and, wherever the uncle term thus appears, his sister is a mother whose children are brother and sister to ego, regardless of the biological generation in which they occur. On the father's side, the father's sister is an aunt, whose children are nephew and niece to ego, a male, and son and daughter to ego, a female. Thus for the cross-cousinships, a man has an "uncle," a "mother," a "nephew," and a "niece," while a woman has an "uncle," a "mother," a "son," and a "daughter." The complexity of this conception of the two sides of the family disappears when we realize that the distinctions on either side are the logical converse of those on the other; if for a man his mother's brother's son is an uncle, reversing the relationship, he is a father's sister's son to that uncle and is called nephew.

---

[13] Gifford, E. W., Miwok Moieties, *University of California Publications in American Archaeology and Ethnology,* vol. 12, 1916, 139–194; Cf. Spier, *op. cit.,* p. 73. The details of the California systems mentioned by Spier are in Gifford, E. W., California Kinship Systems, *University of California Publications in American Archaeology and Ethnology,* vol. 18, 1922, pp. 81–85, 86–113.

[14] Personal information from Mr. G. Wagner.

But, furthermore, the whole system becomes clear conceptually when we disregard the terminological distinction between a woman and her brother's daughter or between a woman and a father's sister and regard them as equated kin. It then follows that they call each other's children sons and daughters and that a man calls his father's sister's children nephew and niece, exactly as he would a sister's children. As will appear below, the equations which result in the affinity relationships are clarified by this conception in the same way.

But first, an inevitable extension of the system occurs in the ascendent generations. On both father's and mother's side, the father's uncle and the mother's uncle are grandfathers to ego, and since their uncle-ship to ego's father and mother, respectively, continues downward *ad infinitum* in the male line, their grandfather-ships to ego continue downward *ad infinitum* in the same way. In this way it happens that in every biological generation, ascendent, and descendent, no matter how far it is charted, all consanguinities of ego will appear. These are brothers and sisters—sons and daughters—nephews and nieces—grandchildren—fathers and mothers—uncles and aunts—and grandfathers and grandmothers. This is true for ego male or ego female. Now while I cannot establish the following, I believe it is of considerable theoretical importance. If a custom of classifying kin can of itself result in classes of kin, which groups may in turn become conscious, named groups with marriage functions which were earlier associated with the relationship term itself,—then a kinship system which makes possible self-perpetuating classes or groups is an essential condition. This is true of the Omaha type, but not of the Dakota, as I earlier pointed out, where the positions of one's consanguinities are fixed in definite generations, with respect to ego and there is no mechanism for the production thereafter of—for example, grandfathers, uncles, aunts, etc., indiscriminately, in descending generations.

Turning to the Omaha type affinities: There are no terms for father-in-law and mother-in-law; but these relationships are merged in grandfather and grandmother. This is true for Winnebago, the Tciwere group, and for Omaha, Ponca, and Quapaw of the Thegiha group. The Osage and Kansa merge the husband's father and mother in grandparent terms, but distinguish the wife's father and mother by special terms, etymologically equivalent to "old man," "old woman." However, it should be remembered that the Dakota parent-in-law terms are merely these same grandparent stems modified by use of two suffixes, the *-ci* before mentioned, and a diminutive, which in Teton is *-la*. The son-in-law, daughter-in-law terms of the Omaha type appear, however, to be distinct terms.

When we turn to the in-law relations in what we might call ego's own generation, the equations resulting from the kinship equivalence of the aunt and niece, that is, a woman and her father's sister or a woman and her brother's daughter, follow as expected. A man calls his aunt's husband, brother-in-law, and his wife's niece, sister-in-law, and his wife's nephew, brother-in-law, while a woman calls her aunt's husband, brother-in-law. This use is clearly a reflection of the marriage of a man to his wife's niece, that is, his wife's-brother's-daughter. This was recorded by J. O. Dorsey and A. C. Fletcher for the Omaha and Ponca, and by Radin for the Winnebago.[15] I myself noted it among the Winnebago, the Sauk and Fox, and the Kickapoo and I am fairly certain that my failure to record it among other groups practising the Omaha system was an oversight, rather than evidence of its absence. This marriage would explain what I have called the conceptual kinship and equivalence in the Omaha type system, of the aunt and niece. In practice, a man marries his wife's niece upon the death of his wife, in the same way that he would marry his wife's sister. Moreover, in the moiety organization of the Omaha with paternal descent, the wife's niece, aunt, and sister, are the only consanguinities of the wife, specifically of the opposite moiety.

In the Omaha type again, the joking-relationship between brother-in-law and sister-in-law occurs as among the Dakota, but by the extension of these terms to take in the aunt's husband and the wife's niece, in the Omaha type, this licensed familiarity relationship includes these additional potential mates. A further joking-relationship occurs between uncle and nephew, which, in addition, involves certain property rights. A nephew can appropriate an uncle's property as he wishes; objection by the uncle brings the censure of the community upon him as a man who has no respect for his nephew. A Winnebago informant emphasized that an uncle's property was at his nephew's command if the nephew served his uncle adequately. Such service involved bearing burdens on the warpath, physical labor in the war camp, as well as the duty of making all preparations for a feast given by his uncle. The uncle could command such services of his nephew. Essentially then, there is here reciprocal obligation between a man and his two male relatives, uncle and nephew, who are of the opposite moiety.

Little comment is necessary to point out the striking similarity between the essentials of this system and that of the Miwok as analyzed by Gifford.[16] Attention has been called to it particularly by Spier's study of the distribution of kinship types in North America.[17] Gifford has shown that among the Miwok cross-cousin marriage has developed from an earlier marriage of a man to his wife's sister, by the son's inheritance of the right of his father to the wife's niece. This development does not appear among the Siouan tribes with Omaha kinship. Everywhere cross-cousins are felt to be too closely related by blood. However, the existence of this wife's niece marriage in both regions, along with the Omaha kinship system, and a moiety system with paternal descent, makes a strong case for a functional relation between all these. Contact between the two regions is a negligible possibility. While it is not clear which feature is cause and which effect, the Omaha system is probably a more certain indicator of the presence of the other features, than, let us say, the presence of paternal descent would be of the Omaha system.

---

[15] Dorsey, J. O., *op. cit.*, pp. 255, 261; Fletcher, A. C. and La Flesche, F., The Omaha Tribe, *Twenty-seventh Annual Report, Bureau of American Ethnology*, 326; Radin, P., Winnebago Tribe, *Thirty-seventh Annual Report, Bureau of American Ethnology*, 138.

[16] Gifford, *op. cit.*

[17] Spier, *op. cit.*

By way of exception, the Omaha system occurs among the Wintun and Pomo tribes contiguous geographically to the Miwok, with an absence of an exogamic structure. Descent, however, is mainly paternal, though the Pomo conditions are complex. In the face of this fact Gifford urged that unilateral descent as a principle affecting the structure of a kinship system, be dissociated from the principle of exogamy.[18] This is, of course, an important possibility; but it may also be, that exogamic groups were nascent among these Wintun and Pomo tribes,—that they existed as unconscious, unnamed sibs. Again, the Yuchi are an exception, possessing the Omaha system, but with matrilineal exogamous clans. The earlier reported Yuchi kinship use of grandmother for father's sister,[19] appears on the basis of recent information, to be a Creek use practised by some of the Yuchi. There are traces of paternal descent in the existence of two men's societies which are definitely paternal. And Doctor Swanton assures me that the Yuchi evidence points to recent movement from the north. Thus the Yuchi case is abnormal; they have probably shifted their mode of reckoning descent since they have been in the southeast.

The Crow type of kinship system, appears for Siouan tribes among the Crow, Hidatsa, and Mandan.[20] It is, in all essential respects, the conceptual reverse of the Omaha type. These three tribes are matrilineal; according to Lowie's analysis, the Crow were divided into thirteen exogamous clans, linked in six loose non-exogamous phratries, while the Hidatsa and Mandan each were divided into seven exogamous clans grouped in two non-exogamous phratries. The Crow type has also been reported for the Creek[21] and some related Muskhogean tribes, and the Hopi.[22] The Pawnee use certain of the Crow features, but, in other respects, differ fundamentally.[23] Some important features of the type appear in the Tlingit and Haida systems.[24] In all cases which have come to my attention, the system occurs along with matrilineal descent. Except for two California tribes,[25] it occurs along with exogamic organization; but there seems little doubt from the Pawnee case that there are important conflicting factors in the Southeast.

---

[18] Gifford, E. W., *California Kinship Systems*, p. 254.

[19] Speck, F. G., Yuchi Ethnology, *University of Pennsylvania, Anthropological Publications*, vol. 1, no. 1, pp. 68–70.

[20] Lowie, R. H., Social Life of the Crow, *Anthropological Papers, American Museum of Natural History*, vol. 9, part 2, 1912, pp. 207–212; *idem*, Notes on the Social Organization and Customs of the Mandan, Hidatsa, and Crow Indians, *ibid.*, vol. 21, part 1, 1917, pp. 11–15, 26–42, 56–74.

[21] Morgan, *op. cit.*; Swanton, J. R., Social Organization and Social Usages of the Indians of the Creek Confederacy, *Forty-second Annual Report, Bureau of American Ethnology*, 1928, pp. 80 ff.

[22] Lowie, R. H., MS., on *Hopi Kinship*, American Museum of Natural History; cf. Lowie's statements therein on the contrast of the Hopi with the Omaha type.

[23] Swanton and Murie, MS., letter and notes; also tables and genealogical material of Doctor G. Weltfish, in MS.

[24] Swanton, J. R., Social Conditions, Beliefs and Linguistic Relationship of the Tlingit Indians, *Twenty-sixth Annual Report, Bureau of American Ethnology*, 1908, pp. 424–426, *Idem*, Contributions to the Ethnology of the Haida, *Memoirs, American Museum of Natural History*, vol. 8, part 1, 1905, pp. 62–66.

[25] Southern Pomo and Wappo. See Gifford, *op. cit.*, pp. 113–118.

In the Crow type, the shift from maternal to paternal descent results in a corresponding shift in all the emphases of the system. This will be clear from a brief analysis of the salient points.

Again the classification of parallel cousins, and what I might term parallel aunts and uncles, is of the Dakota type, and again, as we found in the Omaha, the fundamental divergence appears in the nomenclature of the cross-cousins. Here we have the exact reverse of the conceptual equation of aunt and niece which we found in the Omaha: we have the conceptual equation of the uncle and and nephew, that is—a man and his sister's son, or a man and his mother's brother. But the Crow carries this equation to its logical result. The mother's brother is actually called ''brother'' and the sister's son, man speaking, is actually called ''brother.'' Thus, what we found implicit in the Omaha system, is here, in its reverse, made explicit. From this the cousinships become: on the mother's brother's side, son and daughter, and on the father's sister's side, father's sister and father. Ego has, for cousins, a son, a daughter, an aunt, and a father. The terms for uncle, nephew, and niece have disappeared, but there is an aunt term, and parallel to the Omaha use of uncle for all descendants of the mother's brother in the male line, the Crow uses the father's sister or aunt term for all descendants of the father's sister in the female line. The brothers of these aunts are always fathers whose children are brothers and sisters to ego.

To be brief, the necessary extensions of these follow logically: the mother's mother's brother is, like the mother's brother, an elder brother, and the sister's daughter's son is like the sister's son, a younger brother, and so on. In the affinities, the logical implications of the fraternal equation of mother's brother and sister's son appear: a man's mother's brother's wife is a sister-in-law and his sister's son's wife is a sister-in-law; his wife's mother's brother is a brother-in-law and his sister's daughter's husband is a brother-in-law; for a woman the extensions are parallel.

Naturally, the equation of the uncle and nephew suggests that corresponding to the marriage of a man to his wife's niece, which we found among the Omaha, we should find here a marriage of a woman to her husband's nephew. This has not to my knowledge been specifically recorded: but since the nephew is actually called a younger brother, the marriage of a woman to her husband's-sister's-son would be obscured by the terminology in what would nominally be an ordinary levirate marriage.

Finally, as regards this type, we again have a system, which, by the extension of its distinctions, yields ego all consanguinities in any generation.

What do these equations of the aunt-niece in the one case and the uncle-nephew in the other mean? We know that the levirate and sororate marriage functions very widely; certainly it functions throughout these regions[26] and is expressed in the simple Dakota type. If any emphasis, such as one of unilateral descent, appears, or even, it may be, merely that of matrilocal or patrilocal residence, the woman's niece in the patrilineal, patrilocal case, and the man's nephew, in the matrilineal, matrilocal case, would be the nearest younger kin of the same sex as the deceased spouse. With a residence emphasis, these would be of the same household; with an exogamy emphasis they would be of the same kin group. And furthermore, these two equations are mutually exclusive, that is, if a woman and her brother's daughter are of one household or sib through some rule of residence, of descent, or of exogamy, a man and his sister's son cannot be, and the reverse is true in the same way.

---

[26] With the exception of the Pueblos.

To recapitulate briefly and stress the chief points of the discussion:—

The Dakota kinship type occurs among the Siouan tribes who lack unilateral descent and exogamy; elsewhere, it occurs chiefly for similar simple social organizations. The system itself shows no emphasis which can be correlated with unilateral descent or group exogamy, but rather the direct effect of levirate and sororate marriage, both of which occur extensively among the Dakota tribes.

The Omaha type reflects the equating of a woman and her niece by the marriage of a man to his wife's brother's daughter; this equivalence of aunt and niece in the system is directly related to emphasis on paternal descent and it may be to patrilocal residence; and results in kinship classifications which are perpetuated into all generations, a first condition of permanent social cleavages or exogamous groups. This type occurs, with the exception of the Yuchi and perhaps the Pomo, for patrilineal tribes only, and except for the Pomo and Wintun cases, for tribes with exogamic groups only. The Yuchi are known to have moved south relatively late and their maternal descent may have been taken over from surrounding tribes, while in the Pomo and Wintun case, I have suggested, as a theoretical possibility, that unnamed groups may function there without social recognition, as sibs.

The Crow type is the exact reverse of the Omaha; it reflects the equation of a man and his sister's son, which is directly related to emphasis on maternal descent, and perhaps to matrilocal residence. It occurs only for matrilineal tribes, and chiefly for tribes with exogamic organization. It should be stressed, that with the equating in the one case of paternal descent, of aunt and niece, these are of the same moiety and even household, and the uncle and nephew cannot be, while in the second case with maternal descent, uncle and nephew are of the same moiety and even household, and aunt and niece cannot be. The types are mutually negatives of each other; each arbitrarily excludes the other.

Finally, I am aware that the Dakota system has been type-ified as a classificatory system correlating with exogamic organization, largely, I believe, because of Morgan's early use of the Seneca case as his chief example. I think classificatory in this case is a misnomer. From that standpoint, all three types I have discussed are classificatory, and of these, two appear to correlate with exogamic organizations of opposite emphasis, while the third seems not to reflect exogamy at all. If the Omaha and Crow types are mere variations of the fundamental classificatory Dakota, as has often been urged, then the usages and exogamic organizations which go with them must be later developments, grafted on to an earlier simpler system of non-exogamic organization.

Clearly, within one linguistic stock, terms which can, for the most part, be related as cognates, are functioning elements of kinship systems which differ, and whose differences are causally interrelated with differences of marriage uses, of descent, and of group organization.

NEW YORK CITY.

PSYCHOLOGICAL TYPES IN THE CULTURES OF THE SOUTHWEST

By Ruth Benedict

THE culture of the Pueblo Indians is strongly differentiated from that of surrounding peoples. Most obviously, all aspects of their life are highly ritualized, highly formalized. No one has lived among them who has not been struck by the importance of the formal detail in rite and dance, the intricate interrelations of the ceremonial organization, the lack of concern with personal religious experience or with personal prestige or exploit. The emphasis in their all-absorbing ceremonial routine is placed where it was in the medieval Roman church of certain periods, on the formal observance, the ritualistic detail for its own sake.

This is so conspicuously true for the Southwest peoples that in descriptions of their culture we have been content to let the matter rest with this characterization. Yet in a civilization such as that of the North American Indians high ritualistic development sets no group off in any definitive fashion from the vast majority of peoples. The ritual of the sun dance, the peace pipe ceremonies, the cult groups, and age-societies of the Plains, or the winter ceremonial of the Northwest Coast bulk perhaps slightly less prominently in the total life of these people than the calendric dances and retreats of the Southwest, but it is not by any such matter of gradation that the Southwest is set off from other American Indian cultures. There is in their cultural attitudes and choices a difference in psychological type fundamentally to be distinguished from that of surrounding regions. It goes deeper than the presence or the absence of ritualism; ritualism itself is of a fundamentally different character within this area, and without the understanding of this fundamental psychological set among the Pueblo peoples we must be baffled in our attempts to understand the cultural history of this region.[1]

It is Nietsche who has named and described, in the course of his studies in Greek tragedy, the two psychological types which have established themselves in the region of the Southwest in the cultures of the Pueblo. He has called them the Dionysian and the Apollonian. He means by his classification essentially confidence in two diametrically different ways of arriving at the values of existence.[2] The Dionysian pursues them through "the annihilation of the ordinary bounds and limits of existence"; he seeks to attain in his most valued moments escape from the boundaries imposed upon him by his five senses, to break through into another order of experience. The desire of the Dionysian, in personal experience or in ritual, is to press beyond, to reach a certain psychological state, to achieve excess. The closest analogy to the emotions he seeks is drunkenness, and he values the illuminations of frenzy. With Blake, he believes ''the path of excess leads to the palace of wisdom.'' The Apollonian distrusts all this, if by chance he has any inkling of the occurrence of such experiences; he finds means to outlaw them from his conscious life. He ''knows but one law, measure in the Hellenic sense.'' He keeps the middle of the road, stays within the known map, maintains his control over all disruptive psychological states. In Nietsche's fine phrase, even in the exaltation of the dance, ''he remains what he is, and retains his civic name.''[3]

---

[1] For the theoretical justification of this position in the study of cultures, see Benedict, Ruth, Cultures and Psychological Types, *American Anthropologist*, N. S., *in press.*

[2] I have not followed Nietsche's definitions in their entirety; I have used that aspect which is pertinent to the problems of the Southwest.

The Southwest Pueblos are, of course, Apollonian, and in the consistency with which they pursue the proper valuations of the Apollonian they contrast with very nearly the whole of aboriginal America. They possess in a small area, islanded in the midst of predominantly Dionysian cultures, an *ethos* distinguished by sobriety, by its distrust of excess, that minimizes to the last possible vanishing point any challenging or dangerous experiences. They have a religion of fertility without orgy, and absorption in the dance without using it to arrive at ecstasy. They have abjured torture. They indulge in no wholesale destruction of property at death. They have never made or bought intoxicating liquors in the fashion of other tribes about them, and they have never given themselves up to the use of drugs. They have even stripped sex of its mystic danger. They allow to the individual no disruptive rôle in their social order. Certainly in all of these traits they stand so strikingly over against their neighbors that it is necessary to seek some explanation for the cultural resistances of the Pueblos.

The most conspicuous contrast, in the Pueblos, is their outlawry of the divine frenzy and the vision. Now in North America at large the value of ecstatic experience in religion is a cornerstone of the whole religious structure. It may be induced by intoxicants and drugs; it may be self-induced—which may include such means as fasting and torture—or it may be achieved in the dance.

We may consider first the ecstasy induced by intoxicants and drugs. For the neighboring Pima, who share the culture of the primitive tribes of northern Mexico, intoxication is the visible mirroring of religion, it is the symbol of its exaltation, the pattern of its mingling of clouded vision and of insight. Theory and practice are explicitly Dionysian.

> ''And I was made drunk and given the sacred songs;''
> ''He breathed the red liquor into me,''

are in their songs common forms of reference to the shamanistic experience. Their great ceremony is the drinking of the ''tizwin,'' the fermented juice of the fruit of the giant cactus. The ceremony begins with all religious formality and the recitation of ritual, but its virtue lies in the intoxication itself; the desired state is that of roused excitement, and they accept even extreme violence more readily than a state of lethargy. Their ideal is to stave off the final insensibility indefinitely while achieving the full excitation of the intoxicant. This is of course a form of fertility and health magic and is in complete accord with the Dionysian slant of their culture.

It is much commoner, north of Mexico, to use drugs rather than intoxicants for religious ends. The peyote or mescal bean of northern Mexico has been traded up the Mississippi Valley as far as the Canadian border, and has been the occasion of serious religious movements among many tribes. It gives supernormal experiences with particularly strong affect, no erotic excitation, very often brilliant color images. The cult is best described for the Winnebago[4] where the peyote is identified with the supernatural. ''It is the only holy thing I have been aware of in all my life''; ''this medicine alone is holy and has rid me of all evil.''[5] It was eaten everywhere with the object of attaining the trance or supernormal sensations which the drug can give. The Arapaho ate it in an all-night ceremony after which the effects of the drug prolonged themselves throughout the following day.[6] The Winnebago speak of eating it for four days and nights without sleep.

---

[3] *Birth of Tragedy*, p. 68.

The *datura* is a more drastic poison. I have been told by the Serrano and Cahuilla of boys who have died as a result of the drink, and the Luiseño tell also the same story.[7] It was used by the tribes of Southern California, and north including the Yokuts, for the initiation of boys at puberty. Among the Serrano the boys were overcome by the drug during the night and lay in a comatose condition through the next day and night, during which time they were granted visions. On the following day they ran a race.[8] Among the Luiseño it seems to have been the same, four nights of trance being spoken of as excessive.[9] The Diegueño reckon only one night of complete stupefaction.[10] The Mohave drank *datura* in order to gain luck in gambling; they were said to be unconscious for four days,[11] during which time they received their power in a dream.

None of these alcohol and drug-induced excitations have gained currency among the Pueblos. The Pima are the nearest settled neighbors of the Zuñi to the southwest and easily accessible; tribes of the Plains with which the eastern Pueblos came in contact are the very ones in which peyote practices are important; and to the west the tribes of Southern California share certain characteristic traits of this very Pueblo culture. The absence of these traits in the Pueblos is therefore not due to the cultural isolation of impassable barriers. We know too that the period of time during which the Pueblos and their neighbors have been settled relatively near to one another is of considerable antiquity. But the Pueblos have defended themselves against the use of drugs and intoxicants to produce trance or excitement even in cases where the drugs themselves are known among them. Any Dionysian effect from them is, we may infer, repulsive to the Pueblos, and if they receive cultural recognition at all it is in a guise suited to Apollonian sobriety. They did not themselves brew any native intoxicant in the old days, nor do they now. Alone among the Indian reservations, the whiskey of the whites has never been a problem in the Southwest. When, in 1912, drinking seemed to be making some headway among the younger generation in Zuñi, it was the Pueblo elders themselves who took the matter in hand. It is not that it is a religious taboo; it is deeper than that, it is uncongenial. The peyote has been introduced only in Taos, which is in many ways marginal to Pueblo culture.

---

[4] Radin, Paul, The Winnebago Tribe, *Thirty-seventh Annual Report, Bureau of American Ethnology,* Washington, 1923, pp. 388–426.

[5] *Ibid.,* pp. 408; 392.

[6] Kroeber, A. L., The Arapaho, *Bulletin, American Museum of Natural History,* vol. 18, New York, 1907, p. 398.

[7] Kroeber, A. L., Handbook of the Indians of California, *Bulletin 78, Bureau of American Ethnology,* Washington, 1925, p. 669.

[8] Benedict, Ruth, A Brief Sketch of Serrano Culture, *American Anthropologist,* N. S., vol. 26, pp. 366–392, 1924, p. 383.

[9] Kroeber, A. L., *Handbook,* p. 669.

[10] *Ibid.*

[11] *Ibid.,* p. 779.

Datura is used in Zuñi as it was in ancient Mexico[12] in order to discover a thief, and Mrs. Stevenson gives an account of the manner of its use.[13] Read in connection with her quotations on *datura* poisoning and the two to four day trances of the Mohave and Mission Indians, it is a classic example of the Apollonian recasting of a Dionysian technique. In Zuñi the man who is to take the drug has a small quantity put in his mouth by the officiating priest, who then retires to the next room and listens for the incriminating name from the lips of the man who has taken the *datura*. He is not supposed to be comatose at any time; he alternately sleeps and walks about the room. In the morning he is said to have no memory of the insight he has received. The chief care is to remove every trace of the drug and two common desacratizing techniques are employed: first, he is given an emetic, four times, till every vestige of the drug is supposed to be ejected; then his hair is washed in yucca suds. The other Zuñi use of *datura* is even further from any connection with a Dionysian technique; members of the priestly orders go out at night to plant prayer sticks on certain occasions "to ask the birds to sing for rain," and at such times a minute quantity of the powdered root is put into the eyes, ears and mouth of each priest. Here any connections with the physical properties of the drug are lost sight of.

Much more fundamental in North America than any use of drugs or alcohol to induce ecstasy was the cult of the self-induced vision. This was a near-universality from ocean to ocean, and everywhere it was regarded as the source of religious power. The Southwest is by no means beyond the southern limits of its distribution, but it is the one outstanding area of North America where the characteristic development of the vision is not found. This experience has several quite definite characteristics for North America: it is achieved characteristically in isolation, and it gives to the successful individual a personal manitou or guardian spirit who stands to him in a definite life-long relationship. Though west of the Rockies it is often regarded as an involuntary blessing available only for those of a particular psychological make-up, throughout the great extent of the continent it is sought by isolation and fasting, and in the central part of the continent often by self-torture. This "vision," from which supernatural power was supposed to flow, did not by any means signify only supernormal or Dionysian experiences, but it provided always a pattern within which such an experience had peculiar and institutionalized value; and in the great majority of cases it was these more extreme experiences that were believed to give the greater blessing.

The absence of this vision complex in the Southwest is one of the most striking cases of cultural resistance or of cultural reinterpretation that we know in

---

[12] Safford, William E., Narcotic Daturas of the Old and New World; an Account of their Remarkable Properties and their Uses as Intoxicants and in Divination, *Annual Report, Smithsonian Institution for 1920*, pp. 537–567, Washington, 1922, p. 551.

[13] Stevenson, Matilda C., The Zuñi Indians, their Mythology, Esoteric Fraternities and Ceremonies, *Twenty-third Annual Report, Bureau of American Ethnology,* Washington, 1904, p. 89.

North America. The formal elements are found there: the seeking of dangerous places, the friendship with a bird or animal, fasting, the belief in special blessings from supernatural encounters. But they are no longer instinct with the will to achieve ecstasy. There is complete reinterpretation. In the pueblos they go out at night to feared or sacred places and listen for a voice, not that they may break through to communication with the supernatural, but that they may take the omens of good luck and bad. It is regarded as a minor ordeal during which you are badly frightened, and the great taboo connected with it is that you must not look behind you on the way home no matter what seems to be following you. The objective performance is much the same as in the vision quest; in each case, they go out during the preparation for a difficult undertaking—in the Southwest often a race—and make capital of the darkness, the solitariness, the appearance of animals. But the significance is utterly different.

Fasting, the technique most often used in connection with the self-induced vision, has received the same sort of reinterpretation in the Southwest. It is no longer utilized to dredge up experiences that normally lie below the level of consciousness; it is here a requirement for ceremonial cleanness. Nothing could be more unexpected to a Pueblo Indian than any theory of a connection between fasting and any sort of exaltation. Fasting is required during all retreats, before participation in a dance, in a race, etc., etc., but it is never followed by power-giving experience; it is never Dionysian. Fasting, also, like drugs and visions, has been revamped to the requirements of the Apollonian.

Torture, on the contrary, has been much more nearly excluded. It is important only in the initiations and dances of certain curing societies[14] and in these cases there is no suggestion of any states of self-oblivion. It is interesting that the Pueblos have been exposed to self-torture practices, both in the aboriginal culture of the Plains, and in European-derived practices of the Mexican Penitentes. The eastern Pueblos are in the very heart of the Santa Fé Penitentes country and these Mexicans attend their dances and ceremonies regularly and without hindrance. Much in their practice they have in common with the Indians: the retreats in the ceremonial house, the organization of the brotherhood (priesthoods, for the Indian), the planting of crosses. But the self-lashing with cactus whips, the crucifixion on Good Friday, are alien; torture has not penetrated Pueblo life either from these practices or from those of the Plains or of California. Among the Pueblos, every man's hand has its five fingers, and unless he has been tortured as a witch, he is unscarred.

No more than the Pueblos have allowed ecstasy as induced by alcohol or drugs, or under the guise of the vision, have they admitted it as induced by the dance. Perhaps no people in North America spend more time in dance than the Southwest Pueblos. But its use as the most direct technique at our command for the inducement of supernormal experience is alien to them. With the frenzy of a Nootka bear dance, of a Kwakiutl cannibal dance, of a ghost dance, of a Mexican whirling dance, their dancing has nothing in common. It is rather a technique of monotonous appeal, of unvarying statement; always, in the phrase of Nietsche's I used before, "they remain as they are and retain their civic names." Their theory seems that by the reiteration of the dance they can exercise compulsion upon the forces they wish to influence.

---

[14] Cushing, F., My Experience in Zuñi, *Century Magazine*, N. S., 4, p. 31; Stevenson, M. A., *The Zuñi Indians*, p. 503. "All are filled with the spirit of good nature."

There are several striking instances of the loss, for the Pueblos, of the Dionysian significance of specific dance behavior, the objective aspects of which they still share with their neighbors. The best is probably the dance upon the altar. For the Cora of northern Mexico the climax of the whirling dance is reached in the dancer's ecstatic, and otherwise sacrilegious, dancing upon the ground altar itself. In his madness it is destroyed, trampled into the sand again.[15] But this is also a Pueblo pattern. Especially the Hopi at the climax of their dances in the kivas dance upon the altar destroying the ground painting. Here there is no ecstasy; it is raw material used to build up one of the common Pueblo dance patterns where two "sides" which have previously come out alternately from opposite sides, now come out together for the dance climax. In the snake dance, for instance,[16] in the first set Antelope (dancer of Antelope society) dances, squatting, the circuit of the altar, retires; Snake (dancer of Snake society) repeats. In the second set Antelope receives a vine in his mouth and dances before the initiates trailing it over their knees; retires; Snake repeats with a live rattlesnake held in the same fashion. In the final set Antelope and Snake come out together, dancing together upon the altar, still in the squatting position, and destroy the ground painting. It is a formal sequence, like a Morris dance.

It is evident that ecstatic experience is not recognized in the Southwest and that the techniques associated with it in other areas are reinterpreted or refused admittance. The consequence of this is enormous: it rules out shamanism. For the shaman, the religious practitioner whose power comes from experiences of this type, is everywhere else in North America of first rate importance. Wherever the authority of religion is derived from his solitary mental aberrations and stress experiences and his instructions derived therefrom are put into practice by the tribe as a sacred privilege, that people is provided with a technique of cultural change which is limited only by the unimaginativeness of the human mind. This is a sufficient limitation; so much so, that it has never been shown that cultures which operate on this basic theory are more given to innovation than those which disallow such disruptive influences. This should not blind us to the fact, however, that the setting in these two cultures for the exercise of individuality is quite different; individual initiative which would be fully allowed in the one case[17] would in the other be suspect, and these consequences are fully carried out in the Southwest. They have hardly left space for an impromptu individual act in their closely knit religious program; if they come across such an act they label the perpetrator a witch. One of the Zuñi tales I have recorded tells of the chief priest of Zuñi who made prayer sticks and went out to deposit them. It was not the time of the moon when prayer sticks must be planted by members of the curing societies, and the people said, "Why does the chief priest plant prayer sticks? He must be conjuring." As a matter of fact he was calling an earthquake for a private revenge. If this is so in the most personal of Zuñi religious acts, that of planting prayer sticks, it is doubly so of more formal activities like retreats, dances, etc. Even individual prayers of the most personal sort—those where cornmeal is scattered—must be said at sunrise, or over a dead animal, or at a particular point in a program, etc.; the times and seasons are always stipulated. No one must ever wonder why an individual was moved to pray.

---

[15] Preuss, K. T., Die Nayarit-Expedition. Leipzig, 1912, p. 55.

[16] Voth, H. R., Oraibi Summer Snake Ceremony, *Field Columbian Museum, Publication 83.* Chicago, 1903, p. 299.

[17] See Radin, Paul, *Primitive Man as Philosopher.* New York and London, 1927, pp. 257–275, for discussion of the wide limits of individualism among the Winnebago.

Instead therefore of shamans with their disruptive influence upon communal practices and settled traditions, the Southwest has religious practitioners who become priests by rote memorizing and by membership in societies and cult groups. This membership is determined by heredity and by payment[18] for though in their own theory serious illness or an accident like snake bite or being struck by lightning are the accepted reasons for membership in certain societies, there are always alternative ways of joining even the curing societies so that no man with interest and sufficient means remains outside. In Zuñi heredity is the chief factor in membership in the priestly groups, payment in the curing societies; in neither is individual supernatural power ever claimed by any member as a result of personal illumination. Those who practice curing in Zuñi are merely those who by payment and by knowledge of ritual have reached the highest orders of the curing societies and received the personal corn fetish, the *mili.*

If the ecstasy of the Dionysian has been rejected in the Southwest with all its implications, so too has the orgy. There is no doubt that the idea of fertility bulks large in the religious practices of the Southwest,[19] and with fertility rites we almost automatically couple orgy, so universally have they been associated in the world. But the Southwest has a religion of fertility founded on other associations. Haeberlin's study gives a useful summary of the type of ritual that is here considered to have this efficacy.[20] The cylinders the men carry and the annulets carried by the women in ceremonies are sex symbols and are thrown by them into springs or onto ground paintings; or in the women's dance two are dressed as male dancers and shoot arrows into a bundle of cornhusks; or a line of women with yucca rings run in competition with a line of men with kicking sticks. In Peru in a race of exactly similar import, men racing women, the men ran naked and violated every woman they overtook.[21] The pattern is self-evident and common throughout the world, but not in the Southwest. In Zuñi there are three occasions on which laxness is countenanced. One of these is in the retreat of the Tlewekwe society, which has power over cold weather. The priestesses of the medicine bundle of this society (*le etone*) and the associated bundle (*mu etone*) during one night receive lovers, and they collect a thumb's length of turquoise from their partners to add to the decorations of their bundles. It is an isolated case in Zuñi and the society can no longer be very satisfactorily studied. The other two cases are rather a relaxation of the customary strict chaperonage of the young people, and occur at the ceremonial rabbit hunt[22] and on the nights of the scalp dance; children conceived on these nights are said to be exceptionally vigorous. Doctor Bunzel writes, "These occasions on which boys and girls dance together or are out together at night provide an opportunity for sweethearts. There is no promiscuity, and they are never, never orgiastic in character. There is amiable tolerance of sexual laxity; a 'boys will be boys' attitude." It is all very far indeed from the common Dionysian sex practices for the sake of fertility.

---

[18] Except for the war chiefs' societies where it was necessary to have taken a scalp.

[19] Haeberlin, H. K., The Idea of Fertilization in the Culture of the Pueblo Indians, *Memoirs, American Anthropological Association,* vol. 3, no. 1, 1916.

[20] *Ibid.,* especially p. 39 ff.

[21] Arriaga, P. J., *Extirpacion de la Idolatria del Peru.* Lima, 1621, p. 36 sq.

It is not only in connection with fertility and sex that orgy is common among the peoples of America. In the region immediately surrounding the Southwest, there is on the one hand the orgy of sun dance torturing to the east and the orgy of wholesale destruction in the mourning ceremonies to the west. As I have said, torture plays a very slight rôle in the Southwest, orgiastic or otherwise. Mourning is made oppressive by fear of the dead, but there is no trace of abandon. Mourning here is made into the semblance of an anxiety complex; it is a completely different thing from the wild scenes of burning the dead in a bonfire of offered property and of clothes stripped from the mourners' backs that the Mohave practice[23] and that is found in such Dionysian fullness commonly in California,—where among the Maidu mourners have to be forcibly restrained from throwing themselves into the flames,[24] and among the Pomo they snatch pieces of the corpse and devour them.[25]

One Dionysian ceremony of wide American distribution has established itself in the Southwest—the scalp dance. This is the victory dance of the Plains, or the women's dance, and the position of honor given to women in it, the four-circle coil danced around the encampment, the close-fitting war-bonnet, certain treatments of the scalp, are the same in the Southwest as on the Plains. The wilder abandons of the Plains dance are, as we should expect omitted, but there occurs in this dance, at least in Zuñi, one of the few ritual Dionysian acts of the Southwest—the washing and biting of the scalp. For the repulsion against contact with bones or a corpse is intense among these people, so that it makes an occasion for horror out of placing a scalp between the teeth, whereas placing a snake between the teeth in the snake dance is no such matter. The woman who carries the scalp in the dance—the position of honor—must rise to this pitch and every girl is said to dread being called out for the rôle.

Ecstasy and orgy, therefore, which are characteristic of America at large are alien in the Southwest. Let me illustrate this fundamental Apollonian bent in the Southwest by certain specific examples of the way in which it has worked itself out in their culture.

There is considerable emphasis in North America upon the ritualistic eating of filth and it is in this category that the very slightly developed cannibalistic behavior of the Northwest Coast belongs. That is, the emphasis there is never, as so often in cannibalism, upon the feast, nor on doing honor to or reviling the dead. The cannibal dance of the Kwakiutl is a typically Dionysian ritual.[26] It is not only that it is conceived as a dramatization of a condition of ecstasy which the main participant must dance to its climax before he can be restored to normal life; every ritualistic arrangement is designed—I do not mean consciously—to heighten the sense of the anti-natural act. A long period of fasting and isolation precedes the rite, the dance itself is a crouching, ecstatic pursuit of the prepared body held outstretched toward him by a woman attendant. With the required ritualistic bites the anti-natural climax is conceived to be attained, and prolonged vomiting and fasting and isolation follows.

---

[22] Information from Doctor Bunzel.

[23] Kroeber, *Handbook*, p. 750.

[24] *Ibid.*, p. 431.

[25] *Ibid.*, p. 253.

[26] Boas, Franz, The Social Organization and Secret Societies of the Kwakiutl, *Report, United States National Museum for 1895*, Washington, 1897, p. 537 sq.

In the filth eating of the Southwest, which is the psychological equivalent to this initiation of the Kwakiutl cannibal, the picture is entirely different. The rite is not used to attain horror, nor to dramatize a psychological climax of tension and release. Captain Bourke has recorded the Newekwe feast he attended with Cushing, at which gallon jars of urine were consumed by the members of the society. The picture is as far from that of the Kwakiutl rite as any buffoonery of our circus clowns. The atmosphere was one of coarse joviality, each man trying to outdo the others. "The dancers swallowed huge decanters, smacked their lips, and amid the roaring merriment of the spectators, remarked that it was very, very good. The clowns were now upon their mettle, each trying to surpass his neighbors in feats of nastiness."[27]

The same comment is true not only of filth eating but of clowning in the Southwest in general. I take it that the true Dionysian use of clowning is as comic relief in sacred ceremonial where the release from tension is as full of meaning as the preceding tension, and serves to accentuate it. This use of clowning seems to have been developed, for instance, in the ancient Aztec rites. Now I have never seen any clowning in the Pueblos that seemed to me remotely even to partake of this character, and I do not know of any description which would indicate its presence. Clowning can be buffoonery with no Dionysian implications, as we know well enough from the examples in our own civilization. It is this same use that is most prominent in the Southwest, but clowning is used there also for social satire, as in the take-offs of agents, churches, Indian representatives, etc., and it is common too as a substitute for the joking-relationship, which is absent here, and its license for very personal public comment.

Another striking example of the Southwest Apollonian bent is their interpretation of witch power. The Southwest has taken the European witch complex with all its broomsticks and witches' animal suits and eyes laid on a shelf, but they have fitted it into their own *Weltanschauung*. The most articulate statement that I know of a widespread attitude is still in manuscript in Doctor Parson's monograph on Isleta. The difference, for Isleta, between witch power and good power is simply that good supernatural power is always removed from you as soon as you have put it to the use you intended; witch power is nonremovable, it rides you for life. Their practice perfectly agrees with this; after every sacred investiture every participant in any rite is desacratized, the unwanted mysterious power is laid aside. Nothing could conceptualize more forcibly their discomfort in the face of mystery. Even the best supernatural power is uncanny.

---

[27] Bourke, John G., *Compilation of Notes and Memoranda bearing on the Use of Human Ordure and Human Urine in Rites of a Religious or Semi-religious Character among Various Nations.* Washington, 1888, p. 9.

Their lack of comprehension of suicide is, I think, another specific Apollonian trait. The Pima tell many stories of men who have killed themselves for women, and the Plains made suicide a ceremonial pattern; fundamentally their vows to assume the slit sash were suicide pledges in order to raise their rank. But the Pueblos tell the most inept stories[28] which are obvious misunderstandings of the concept. Again and again I have tried to convey the general idea of suicide to different Pueblo Indians, either by story or by exposition. They always miss the point. Yet in their stories they have the equivalent. There are a number of Zuñi stories[29] which tell of a man or woman whose spouse has been unfaithful—or of priests whose people have been unruly; they send messengers, often birds, to the Apache and summon them against their pueblo. When the fourth day has come—nothing ever happens in the Southwest till the fourth day—they wash themselves ceremonially and put on their finest costumes and go out to meet the enemy that they may be the first to be killed. When I have asked them about suicide no one has ever mentioned these stories, though they had perhaps been told that very day, and indeed they do not see them in that light at all. They are ritual revenge and the Dionysian gesture of throwing away one's life is not in question.

The cultural situation in the Southwest is in many ways hard to explain. With no natural barriers to isolate it from surrounding peoples, it presents probably the most abrupt cultural break that we know in America. All our efforts to trace out the influences from other areas are impressive for the fragmentariness of the detail; we find bits of the weft or woof of the culture, we do not find any very significant clues to its pattern. From the point of view of the present paper this clue is to be found in a fundamental psychological set which has undoubtedly been established for centuries in the culture of this region, and which has bent to its own uses any details it imitated from surrounding peoples and has created an intricate cultural pattern to express its own preferences. It is not only that the understanding of this psychological set is necessary for a descriptive statement of this culture; without it the cultural dynamics of this region are unintelligible. For the typical choices of the Apollonian have been creative in the formation of this culture, they have excluded what was displeasing, revamped what they took, and brought into being endless demonstrations of the Apollonian delight in formality, in the intricacies and elaborations of organization.

COLUMBIA UNIVERSITY,
NEW YORK CITY

---

[28] Parsons, Elsie Clews, A Zuñi Detective, *Man*, vol. 16, pp. 168–170, London, 1916, p. 169.

[29] Benedict, R., Mss.

SPANISH ELEMENTS IN THE KACHINA CULT OF THE PUEBLOS

By Elsie Clews Parsons

SEVERAL years ago when I began the study of Pueblo Indian ceremonial, I was struck by similarities between such Pueblo and Catholic rites[1] as asperging,[2] incensing, ceremonial fasting and continence, penitential or purificatory flagellation, soliciting alms or offerings, breathing upon or from (kissing) sacrosanct things, head washing with name giving, etc.; but these rites were so imbedded in what seemed indubitable Pueblo ceremonial that I thought it hazardous to describe them as of Spanish provenience, and as I became more familiar with the complex and integrated culture of the Western pueblos I dismissed or overlooked Catholic parallels. More recently, however, a twofold experience has revived those early impressions. Increased knowledge of the folk-tales throughout the pueblos has made one appreciate the extreme ingenuity whereby Spanish elements have been fitted into Pueblo folklore[3]—and if in lore, why not in ritual?—and recent observation in the Eastern pueblos has yielded data on the beginnings of that process of acculturation which is thorough enough in the Western pueblos to baffle analysis. As the folk-tales indicate different periods of borrowing and different degrees of assimilation, so will the ritual.

The *Koyemshi* clown organization of Zuñi is an extremely integral part of Zuñi ceremonialism—the group of ten functions throughout the year, not only in clowning at the mask dances of summer, but at monthly prayer-stick offerings for rain and as a most important group at the ceremonial of the Advent of the *Kachina* in November-December known generally as *Shalako,* and yet this *Koyemshi* group, I believe, is derived in part from the so-called Grandfathers of the Eastern pueblos and of their Mexican neighbors. The Grandfathers, *abuelos,* actually *abuelo,* grandfather, and *abuela,* grandmother, still appear today at Alcalde, a Mexican town near San Juan, the most northern of the Tewa pueblos, in the dance of the *Matachina*,[4] a Spanish fiesta dance with "little bull" burlesque thrown in. The *abuelos* wear their ordinary clothes, shabby at that, and a hood or mask of leather covering the entire head, and carry a whip. They are in charge, so to speak, of the little girl, the *Malinche*,[5] and of a little boy, the "bull," of the dance, buffooning with the "bull." *Matachina* is danced at San Juan and at all the other Tewa pueblos, also at Taos, Jemez, and at some of the Keresan pueblos (not at Isleta or the Western pueblos). At San Juan the *abuelo* masks are painted white, blue, black. On one mask at the performance I saw in 1927 there were designs of a horse and a five-pointed star. The San Juan *abuelos* pay little attention to the *Malinche*, but one has himself gored by the "bull," and the other quarters the dead "bull" with his whip.[5a] They also valet the dancers, replacing stray ribbons, and they smooth the ground, picking up pebbles, where the dancers are to kneel. From time to time they call out in a shrill falsetto.

---

[1] See unpublished ms., *Christian Rites in Zuñi Ceremonial* read before the American Ethnological Society, 1918.

[2] In the Western pueblos asperging is a very common altar rite, and to make them feel lively the *kachina* dancers are asperged by the society chiefs. Benavides writes that in 1629 at Acoma a dying child was brought to the friar who said to the child's mother, "Have faith, then, Daughter; for this holy water of Baptism is powerful to revive thy daughter." As he cast it upon her, instantly the child raised herself well and sound, and besieged the breasts of her mother, and turned very smiling and cooingly to the priest. (*The Memorial of Fray Alonso de Benavides 1630,* p. 27, Reprint, Chicago, 1916.)

[3] See Parsons, E. C., Tewa Tales, 3–5, *Memoirs, American Folk-Lore Society,* vol. XIX, 1926; Parsons, Die Flucht auf den Baum, *Zeitscrift für Ethnologie,* Jahrgang 54, pp. 1–29, 1922; Parsons and Boas, Spanish Tales from Laguna and Zuñi, N. Mex., *Journal American Folk-Lore,* vol. XXXIII, pp. 47–72, 1920; White, L. A., Acoma, *Forty-seventh Annual Report, Bureau of American Ethnology,* in proof; Benedict, R. F., *Cochiti Tales,* in ms.

At San Juan, *Matachina* is danced December 24 and 25; and Turtle dance (*oku share*) December 25 and 26. Turtle dance is a *kachina* dance without mask. At it *abuelos* also appear. Instead of the old everyday clothes of the *Matachina abuelos*, they wear a buckskin coat and trousers, with a dance kilt of cowhide. The mask is shaped much like the *Matachina abuelo* mask, flat with outstanding nose piece, but the ear pieces are well squared with mica earrings attached, and instead of fringe at the seam up the back there are on top a black wig and at the back, twigs of spruce. Standing up from the coyote fur collar are twigs of spruce, the green peculiar to the *kachina.* One mask is painted black, the ears white; the other, white, the ears, red. Red diagonals run from the corners of the eyes across the cheeks. There is an approach to the characteristic *kachina* mask.

---

[4] Danced in Mexico also, by the Tarahumare, in Christmastide—*danza de los Matachines*. Some paint the face, others wear animal masks. They dance to the violin, and go through the streets making people laugh at their extravagancies. (Montes de Oca, José G., *Danzas Indígenas Mejicanas*, Tlaxcala, 1926, p. 26; *Mexican Folkways*, III, no. 3, pp. 230 ff.) At Dinamita, Durango, *Abuelos* or *Los Antiguos* figure in a dance. (*Ibid.*, p. 29.) Here, too, *Matachines* are referred to, as a clowning group. (Genin, Auguste, Notes on the Dances, Music and Songs of the Ancient and Modern Mexicans, *Annual Report*, Smithsonian Institution, 1920, p. 672.) "In the morning the dancers, led by the queen, move to the altar, dancing in two ranks, flanked by the fool, the devil, and the master (of ceremonies), who to some extent play the part of clown." (*Ibid.*, p. 673.)—This account from Durango might almost serve for the *Matachina* processional at San Juan.—*Los Matachines* is danced by the Yaqui. (Film taken by Miguel Covarrubias.)

In Jalisco the Hermit in the "farces called pastorelas" (nativity plays) is the homologue, I surmise, of *abuelo*. See Montenegro, Roberto, Mascaras Mexicanas, *Publicationes de la Secretaria de Educacion*, pls. 20, 21, 22.

In Michoacán a Christmastide group of Los Viejos is described. "These wore large, comic, wooden masks, many of which showed signs of long-continued use; one represented a long, warty, bearded face and was painted purple; others were painted red or brown, but most of them were of the natural color of the wood; great wigs of corn-husk or of matting were worn over the back of the head; the clothing was ragged and dirty, and in some cases was really of ancient style; some wore roughly made garments of the skin of the *tigre*. Each band had its leader, and each tried to outdo the others in the oddity of performance, vigor of dancing and coarseness of jest. Much fun and laughter were caused by their antics." (Starr, F., *In Indian Mexico*, Chicago, 1908, pp. 71–2.)

[5] A Mexican term for female dancer, referring to the Indian interpreter and mistress of Cortes. The *Malinches* in certain dances of Guadalajara are described as little girls. (*Danzas Indígenas Mejicanas*, pp. 12–13). For the appearance of *Malinches* and the use of masks at Corpus Christi in Oaxaca, see *Mexican Folkways*, vol. IV, no. 1, p. 60. The "queen" in the Dinamita dancing is generally a little girl. (Genin, p. 673.) A girl queen sometimes figures in Los Moros which is danced throughout the valley of Mexico. (Personal observation.) *Malinches* figure in the *danza de la Conquista or danza de las plumas* of southern Mexico. (Starr, p. 30.)

[5a] As I saw the *Mal Velhos* do to león, the lion mask, at carnivals at Zaachila, Oaxaca.

The outstanding pattern of social organization of the Tewa is the moiety, there are Summer people and Winter people, and the Turtle dance Grandfathers are representatives from the moieties, the black mask is a Summer man, the white, a Winter man. The impersonators of the *Matachina* Grandfathers are appointed annually by the governor, whose office is of Spanish provenience, but the impersonators of the Turtle dance Grandfathers hold office for life. The Turtle dance Grandfathers, we see, are fitted into the general ceremonial organization. As are their homologues at Isleta, the *te'en* (grandfathers), of whom there are three from one moiety, and three from the other, with the Town chief at their head. (He is one of the three from the Black Eyes moiety.)

Moiety organization does not occur at Zuñi. Assuming that a Grandfather group was to be borrowed from the East, how was it to be fitted in? The impersonators of the *Koyemshi* or *alashi* (old ones) are chosen annually by the Zuñi hierarchy, the group of high priests who appoint to secular office as well as to several ceremonial positions. One of these hierarchs is in charge of the *Koyemshi* masks. The appointments are made from four of the curing societies, theoretically in rotation. As each impersonator will be paid for his services in food and goods by his father's clanspeople, clan affiliations have to be considered in making the appointments. This scheme of appointment in its distribution of parts has the look of modernity, so to speak, or importation, and so has the arrangement for renewing the masks when they wear out. They are or were renewed by three men, one a *Ne'wekwe,* the others from the Big Firebrand society.

The *Koyemshi* origin tale has a distinctly Christian flavor. After the Emergence, during the migrations of the people, the son and daughter of a high priest went on ahead. The day was hot, they lay down to rest, the brother was tempted by the looks of his sister as she lay asleep, he had intercourse with her. When both awoke they had become *Koyemshi,* punished for their sin with ugliness and old age. The girl was an old, old woman, the boy, an old man. These became the parents of the *Koyemshi,* and the old woman, Komokatsi, is also referred to as the mother of all the *kachina* or mask impersonations. Incest and punishment for sin are ideas alien to the Pueblo. I believe that the *Koyemshi* origin tale is a Zuñi variant of the story of Adam and Eve[6] which, we may note, never spread to any of the other pueblos except Laguna and Walpi,[7] in which towns there was a direct importation of *Koyemshi* ritual from Zuñi. The term *Koyemshi* or rather, in the form more often used, *Koyemashi* means *koko* or *kachina* husband, possibly a reference to the origin story or possibly to the friar as husband of the Church. Just as bald mask and pink body pigment and black kilt may have been suggested by the tonsure and skin color and raiment of the *tutaksikwe* or "fathers of drink," so-called, according to Cushing,[8] from the cup-like vessel of water they used in baptizing.

---

[6] Or possibly of some such Catholic tale as one may still hear in Mexico. My donkey boy from Almaloyo, on our way to the mountain sanctuary of Chalma, Morelos, related that a priest and his housekeeper once sinned on that journey and were turned into stone, also that under the bridge of the river at Chalma, once a favored bathing place, a *comadre* and *compadre* had had intercourse and in consequence were turned into serpents interlocked, which the priest had to sprinkle with holy water to separate and to restore to human form. None bathes now in that place.

[7] Stephen's Hopi Journal in ms.

The *Koyemshi* are much feared at Zuñi for their magic or witchcraft, and in Pueblo witchcraft Mexican influence may be always suspected. In the knobs of the *Koyemshi* masks are said to be bits taken from the footprints of the townspeople, which give power over the townspeople. This, we recognize, is a European idea. Injuries from that European animal, the horse, are readily inflicted by *Koyemshi* magic. The payments to the *Koyemshi* impersonators suggest those made to the friars in early days or today in other pueblos to the *padre* on All Souls day. The *Koyemshi* payments at *Shalako* are noticeably in sheep and store bought goods. Whenever they come out the *Koyemshi* are beggars, paying domiciliary visits, two by two. Refusing them anything is very dangerous. "Something will surely happen." One wonders if the begging friars who made the people work for them and contribute to their daily needs did not have to make use of much the same kind of sanction. Religious retreat is an Indian trait, but the very prolonged period of retreat and ritual continence required of the *Koyemshi,* sixteen days at *Shalako,* may be a particular reminiscence of the ways of the friars.[9]

Consider also that the *Koyemshi* at Zuñi are a third clowning group, an extra group so to speak. The *Koshare* and *Kurena* of the Keres, the *Shifun* and *Shure* of Isleta, the *Tabösh* and *Tsunta tabösh* of Jemez, are represented at Zuñi by the *Ne'wekwe* and the *Shi'wanakwe.*[10] Specifically, my guess is that the *Koyemshi* are a composite of the Mexican *abuelos* and *Ne'wekwe* buffooning, a *Ne'wekwe* joke, so to speak. In this connection I recall the amusement expressed by an old *Ne'wekwe* of my acquaintance in telling about the continence of sixteen days exacted of the *Koyemshi.* It is of course a very serious taboo, but yet to him there was also something humorous about it. The *santu,* the Saint, at Zuñi, as elsewhere, is a much respected spirit, yet there lives today in Zuñi a man nicknamed Ne'santu because during some *Ne'wekwe* burlesque he was set up on an altar to mimic the Saint. There are several sets of burlesque *kachina* masks at Zuñi and of these the *Ne'wekwe* are custodians. In those burlesque dance presentations, a *Ne'wekwe* is the "road maker." (Every dance set has such a leader from one or the other of the societies.) On First Mesa the homologous clowning societies are the *Wöwöchimtu* (old men) and Singers[10a] and the burlesque masks are kept in the kiva of the *Wöwöchimtu*. These masks are of the type of the San Juan Grandfathers.[11]

---

[8] Zuñi Creation Myths, *Thirteenth Annual Report, Bureau of American Ethnology,* Washington, 1896, pp. 330–336.

[9] In this connection a passage from Thomas Gage's description of religious dramatization by the Indians of Guatemala is of interest: "The Indians that dance this dance, most of them are superstitious for what they do, judging as if it were indeed really acted and performed what only is by way of dance represented. When I lived amongst them, it was an ordinary thing for him who in the dance was to act St. Peter or John the Baptist, to come first to Confession, saying they must be holy and pure like that Saint whom they represent, and must prepare themselves to die. So likewise he that acted Herod or Herodias, and some of the Soldiers that in the dance were to speak and to accuse the Saints, would afterwards come to confess of that sin, and desire absolution as from bloud-guiltiness." (*A New Survey of the West Indies,* 1677, p. 350.)

Confession before religious dancing *i.e.,* dancing in fulfilment of a vow (*promesa*) is practised in the towns of the valley of Mexico. (Personal observation.)

[10] See Parsons, Census of the *Shi'wanakwe* Society of Zuñi, *American Anthropologist,* N. S. vol. 21, 1921, pp. 333–334.

The Grandfathers of San Juan are also called *Tsabio* and represent spirits living in the mountains, cannibalistic ogres who used to capture children and are today used as bug-a-boos. These *Tsabio* (Keresan, *Chapio;* Taos, *Tsabaiyuna;* Isleta, *łiwa tenan,* tall[12] *kachina*) are represented alike in theory and in function, among the Hopi as the *Suyuku* (also called *Tsabaiyo, Cháveyo*) and at Zuñi, as the *Atoshle*[13] (obsolete reciprocal to grandfather) who come out, especially during the *Shalako,* as a couple, old man and old woman, to chase the children or to preach to them. The *Atoshle* and the *Suyuku* wear typical *kachina* masks and costumes, and are accounted regular *kachina.* Disciplinary *kachina* in the West; Mexican bogeys in the East!

If the origin of *Atoshle* is to be found in *abuelo,* may not other *kachina* have derived also from Rio Grande figures? I think so. The Zuñi *Kok'okshi* or Good *koko* or *kachina* who are accounted in Zuñi theory the oldest of the *koko*[14] *i.e.* the most original (and Zuñi ritual bears this out) throw back, I suggest, to the line dancers of the *Matachina*[15] or similar Mexican dance.[16] In the Mexican (and

---

[10a] One of the functions of the old men in Mexican dances is to distract the performers from their parts, just as the singers try to make the Agaves or Horns laugh, in the Hopi Wöwöchim. But see p. 593.

[11] Stephen's Hopi Journal.

[12] At Taos, too, the ogre is a mountain giant.

[13] Parsons, The Zuñi Ádoshlĕ and Suukĕ, *American Anthropologist,* N. S. vol. 18, 1916, pp. 338–347.

[14] For mask wearing spirits there are among the Pueblos three terms: *Kachina* (Hopi) with its variants, *k'atsina, katsena* (Keres), *ohuwa* (cloud, Tewa), *koko* (Zuñi). It is a curious detail that, as Doctor Fewkes once pointed out (Tusayan Katchinas, *Fifteenth Annual Report, Bureau of American Ethnology,* Washington, 1897, p. 307, n. 1, *coco* in Spain is a term for bogey man, of the very type of Chapio-Atoshle. Mothers sing to their children:—

Duermete niño hermoso
Qui viene el coco
Y se come à los niños
Que duermen poco.

Another curious comparative detail is that this *coco* is depicted with the head of a fish (in his large pocket he tucks away the children) and that in Zuñi tradition their *koko* originated as fish, turtles, etc. They were the children who fell off their mothers' backs and turned into fish and went down stream to the lake where they became the dancing and singing *koko.* The Tewa call their ceremonialists "Fish people" because of a variant of this same story. . . . In Mallorca, Balearics, I have recently learned, although the *coco* song is known, the spirit is not fishlike, but human, and referred to as a giant. At certain saint day fiestas two appear—the *giganta* and the *gigante.* The children are afraid of them, and mothers threaten a crying child with the giants. See Appendix I.

[15] Incidentally, I note that the *Koyemshi* have to accompany the *Kok'okshi* as the *abuelos,* the *Matachina.* Both sets of clowns valet the dancers. In the religious dances of Mexico the two clowns, whether "old men" or devils, are as vital a part of the performance as *Koyemshi* or "grandfathers." Their humor is also the same and it arouses the same interest in the lookers-on. Also they police for the dancers.

[16] Such as *Los Moros, Los Vaqueros, Pastores, Contra danzantes,* all of which are danced in the valley of Mexico or near by during the pilgrimages of Lent. At the Saint's day dance

Pueblo) *Matachina* there are ten youths dancing for the most part in two lines, who wear silk kerchiefs and ribbon streamers and an elaborate headdress. From a beflowered metal frame on top of the head[17] there falls over the eyes and to the tip of the nose a thick fringe of jet. The neck kerchief is brought up to the nose, so that the face is practically masked.[18] The Pueblo *Matachina,* like the Pueblo *abuelo,* shows differentiation, an eagle wing feather projects on each side of the headpiece. The jet fringe is curiously reminiscent of the false bang worn by Zuñi women in one of the *kachina* dances and in the Buffalo dance of Western type, and I recall that there is a fringe or beard of jet on the Navaho mask which is borrowed from the Zuñi *Kok'okshi.*[19] *The Kok'okshi* mask itself has a fringe or beard of black hair, horse hair.

The San Juan Turtle dance is the Zuñi *Kok'okshi* in step and dance pattern and in music, the same dance only without mask. Maskless *kachina* dances of this type and of others are danced in all the Tewa and Eastern Keresan towns, in Jemez and in Isleta. To such dances the mask may have been added at Zuñi or the Zuñi mask dance may have been copied in the East, and the mask dropped—as at Cochiti in the case of the *Chakwena* dance which is danced without mask and is said to be borrowed from Laguna[20] where as in the West it is danced in mask (plus ritual and ceremonial organization). At Isleta, also, there is a strong case for borrowing from the West, from Zuñi. The supernatural *ƚiwale*[21] who comes into town in connection with the *pinitu* ceremonial is said to live on Zuñi mountain, and *Welimai* (*Wenima,* Keresan and Zuñi), the underground region or lake in the west where live the *kachina* and the Dead, is said at Isleta "to belong to the

---

at Jaltipán, Vera Cruz, about twenty men wear masks, wooden, painted red and green, one mask with deer antlers on the forehead. Headdress of fowl features and macaw tail feathers with tufts of cotton at the tips. They carry crook sticks. Circle dance. The deer mask is pursued by a huntsman mask, killed and skinned—a pantomine recalling the bull burlesque in the *Matachina.* (See below.) At Bachajon, Chiapas, on June 22–3, there is a dance in which four couples, men and women, dance opposite each other "with a shuffling step not unlike waltzing." (Tribes and Temples, *Publications Tulane University,* 1926, vol. I, pp. 72–74; vol. II, p. 364.) See, too, the Xtoles dancers in Merida. (Starr, pp. 317–8).

[17] The headdress at San Ildefonso and at Cochiti looks like a bishop's cap.

[18] As in the impersonation of St. James in the Dance of the Moors in Michoacán, Mexico. (González, C., La Danza de los Moros, *Mexican Folkways,* vol. IV, no. 1, 1928, pp. 31, 34. Also as in a performance of *Los Moros* which I saw at the sanctuary at Tepalcingo, Morelos, the third Friday of Lent. In this all the dancers wore the kerchief to the base of the nose and the fringe of beads to the tip. Some of the bead fringes were colored. St. James, Cristianito, and the Embajador in Los Moros danced at Tlaxco, Guerrero, at the fiesta of El Señor de Santa Vera Cruz on March 28 wear kerchiefs to the nose, but no fringe. At Naranjan, Michoacán, St. James is masked. (*Mexican Folkways,* I, no. 2, p. 14.)

[19] The last night of the Night Chant ceremony. See Parsons in *American Anthropologist,* vol. 23, p. 242.

[20] Goldfrank, E. S., The Social and Ceremonial Organization of Cochiti, 108, *Memoirs, American Anthropological Association,* no. 33, 1927. At Cochiti there is also a dance called *Sú'nvi* which may be danced with or without mask. The Hopi dance of Jemez is a maskless *kachina* dance. One of the two dance societies of Jemez always dances *Surni k'ats'ana*—in mask. (Parsons, E. C., The Pueblo of Jemez, *Department of Archaeology, Phillips Academy,* 1925, pp. 74, 87–93.)

[21] Parsons, E. C., Isleta, *Forty-seventh Annual Report, Bureau of American Ethnology,* in proof.

dancers.'' *Wenin* are the under lake people from whom the *liwa* represented by the dancers get their power. ''*Wenin* are like the saints.''

The *kachina* maskless dances of the East are performed in Church calendar days or seasons, Christmas and Easter tides and on Saint's days. At these times also so-called saints dances may be performed. Step and figure are much the same as in the maskless *kachina* dance, only there is more of the quadrille-like winding or weaving in and out figure characteristic of the *Matachina.* Also there are women dancers, one line of women, one line of men. Sometimes the women, more rarely the men, wear an elaborately carved wooden headdress or tablita.[22]

In the Zuñi *Kok'okshi* there is also a line of women dancers impersonated by men, except in the two or three cases of women kiva members. (The *Kok'okshi* is presented by kiva groups in which with these exceptions there is only a male membership.) Women impersonations figure in some of the other *kachina* dances—in the *Chakwena,* there is Bear old woman as well as Bear old man, both dancing out of line. The notch stick grinders in *Hemishikwe*[23] are women impersonators. In the *Matachina* as noted there figures the *Malinche,* to which Mexican term for female dancer correspond in Keresan, *Kuchininaku,* Yellow woman, and in Zuñi and Hopi, *Kok'wele* or *Kachinmana, Kachina* girl. In the fiesta dancing of Spain (Balearics) there may be a line of girl dancers—*dama*—opposite a line of boy dancers or one girl to four or more boys. And see Appendix I. At a presentation of *Los Moros* by pilgrims to Chalma, the great Augustinian sanctuary in Morelos, I saw a boy impersonate the Moorish queen; and again in the dance-drama of *Las Tres Potencias* at Tlaxco, boys were taking women's parts.

In the *Matachina* the other distinctive impersonation is the bull, which part is taken by a little boy, wearing a headdress of bull horns. At San Juan he wears the whole hide, and holds two sticks or canes to lean over on—as do the impersonators in the game animal dances. Between these dances, notably the Buffalo dance with its horn and hide wearing male impersonators and its woman figure (who at Zuñi and among the Hopi wears the bang to the nose), the bull fight burlesque—Mexican and Pueblo (i.e. the Peços mask, see below)—and some of the Zuñi horn *kachina* masks there are other similarities. The Zuñi *Shalako* wear bull or cow horns, as do several impersonations in the *Watempla,* the black faced *Chakwena,* and the four *Sayatia* or whipper *kachina.* It is tempting to surmise that this type of fierce whipper, the cleansing or exorcising *kachina,* was influenced by some Spanish *demonio* or *diablo* impersonation which once figured in New Mexico[24] as it does still in the Balearics, in old Mexico,[25] and in the Spanish West Indies.

---

[22] Characteristic of this tablet is the widespread terrace design the Tewa call *tsqwe* and the Isletans, *bersqe.* This figures in building (at Isleta on the gates and roofs of ceremonial houses), on ladders and kiva fire screens (Isleta, Picuris, Jemez, Tewa), on Hopi woven dance kilts, in ceremonial pottery bowls. It has recently been figured on a cradle from Taos and on a pipe from Pecos (*Indian Notes, Museum of the American Indian, Heye Foundation,* vol. V, nos. 2, 3, 1928, Figs. 65, 75). A like design is used in southern Spain. It is Moorish and may be seen in the tiles of the Alhambra and in Moorish buildings in southern Spain and in the Balearics. It is also pre-Conquest in Mexico.

[23] From name and tradition this appears to be a *kachina* dance borrowed in the west from Jemez. It is particularly associated with notched stick playing which, by the way, is to be found in Mallorca.

But to return to the animal burlesque derivation which is seen today, notably at Jemez at the Porcingula fiesta introduced into Jemez by its Pecos emigrants, here we have a painted cloth representing the bull hide stretched over a frame held up by a man underneath it[26] (as is, by the way, the *Shalako* giant mask).[26a] The "bull" carries on the burlesque by upsetting a table at which men speaking "Mexican" are feasting. But the Pecos "bull" is more than a burlesque, it is a fetich much as is a regular *kachina* mask. Prayer-feathers are fastened within its frame, people sprinkle it with prayer-meal, and the cloth hide etc., is kept from year to year, kept in the house where Porcingula, herself, the Pecos saint, is kept, by the chief ceremonialist of the Pecos lineages. At Cochiti a horse mask is kept and fed by the Town chief as a member of the Flint society and ridden by him or by a *Koshari* on the day of Santiago, July 25, and these are *Koshari* attendants.[27] At Santa Clara and San Domingo there are horse masks also, of a burlesque character, but to what extent they have become fetichistic or have remained merely of the type of the Spanish animal mask[28] I do not know. But from the Pecos "bull," at any rate, to the Zuñi animal *kachina* there is but a short step. At Acoma, Santiago who appears on a horse, a horse mask, on the Saint's day, is actually referred to as a *kachina*.[29]

There is another animal impersonation among the Tewa and Tanoans which at Zuñi is a *kachina* impersonation—the dog that is held in leash by a woman in the Dog dance. The Dog dance was performed at Santa Clara and Picuris in 1927. Formerly it was performed at Nambé as an Easter Sunday dance. Represented by a man painted white all over, including his hair, the dog was supposed to be suffering from hunger, just as Our Lord was suffering on the cross, and people brought his bowls of food, food that was afterwards taken out to the Dead.[30]

---

[24] See p. 593. Possibly the boy "bull" in the *Matachina* of Alcalde and San Juan was originally a *demonio*. However, a *torito*, of bull hide and horns on a miniature frame, is carried, mostly on top of the head, sometimes by a man, sometimes by a boy, in the dance of *Los Vaqueros* of Mexico.

[25] *Mascaras Mexicanas*, pls. 36–39. Also, *Mexican Folkways*, vol. IV, no. 1, 1928, p. 11; Genin, pl. 8. At Dinamita the Devil and the Old Man carry whips. In the dance of *Los Moros* the two clowns, whether devils or old men, carry whips, as do the clown *Negrits* in the dance of *La Conquista* of Oaxaca. The "Grandfathers" at San Juan carry whips. In a performance of *Los Moros* seen by Starr one of the two boy clowns wore an animal mask. (Starr, p. 31.)

[26] Cp. the *toro* frame of the Chols of Chiapas. (Starr, p. 389, and illustration opposite p. 384.) At Jacaltenango a bull burlesque may be performed during Carnival. The bull frame is of two arches connected by slats, and neck-piece with bull's head crudely represented. The hide is represented by mats. These properties, the drum and fifes are kept by one man. The dance is undertaken according to *promesas*. There is some phallic behavior, the bull mounts various persons or attempts to. (Personal communication from Oliver La Farge.)

[26a] In Oaxaca there are *gigantes*, a male and female, in the fireworks, through the hoop skirt of their cane frame the bearer peers out as does the *Shalako* bearer.

[27] Goldfrank, p. 46.

[28] The clown with the *Pastores* of the Mexicans of the lower Rio Grande wears a lion mask. Bourke, J. G., The Miracle Play of the Rio Grande, *Journal of American Folk-Lore*, 1893, p. 94, and see p. 594. Clowning by Lion or Tiger mask is to be seen in Oaxaca and Guerrero.

[29] White ms. Santiago who is the patron saint of horses, sometimes appears with a hobby horse in the Mexican dance of *Los Moros*. (Personal observation and see Starr, p. 31.)

In all the pueblos food offerings are made to the Dead and to the *kachina*, bits of food, whether of the funerary meal or the food gathered on All Souls Day, or on the night "the *kachina* come" (*koko awia* or "*shalako*") which might be taken as equivalent to All Saints Night, if the *kachina* are to be equated, according to our thesis, with the Saints. In Zuñi opinion there is much the same relation between the Dead and the *kachina* as in Catholic doctrine there is between the Dead and the Saints. The Saints and the *kachina* once lived among us; the Saints departed to the sky or to serve as beneficent spirits on mountain-top sanctuaries or at springs or wells, the *kachina* to mountain tops or beneath springs or lakes. To their great lake, the Dead also go, and to the lake, at Zuñi and at Taos, an annual pilgrimage is made comparable in many particulars to the Lenten pilgrimages of Mexico.[30a] Anecdotes explaining particular traits attach both to Saints and *kachina*.[31] Alike they confer blessings—the blessings of rainfall, of crops, of children, of recovery from sickness. They are prayed to with candle or with prayer-stick or prayer-feather.

Particular *kachina* have their parallels in particular Catholic spirits. The *Chakwena* woman of Zuñi lies in for four days—*chakwena chalia*, childbirth, as does the Santu (Virgin of Guadalupe)[32]—*santu chalia*. The *Chakwena* has gone out on a ritual hunt to promote the reproduction of rabbits just as the *Santu* has been carried through the fields to promote fertility and rainfall. At her lying-in, small clay figures of sheep, donkeys, horses, etc., are placed around the prostrate saint so that during the year she may give increase of the animals represented. At Acoma on June 24, St. John's day, women carry to the church little clay figures of all the domestic animals to be sprinkled with holy water.[33] Now *Chakwena* woman dramatizes this rite by observing childbirth practice during her four days confinement when she is attended by a woman desirous of offspring. A further outcome of the Catholic rite is the *kachina* "doll" or baby given by the *kachina* to prosper childbearing.[34]

Between *Shulawitsi*, the boy *kachina* and Jesus, there are resemblances. *Shulawitsi* lights the fires on the trail taken by the *kachina* into town, at *Shalako*.

---

[30] I am wondering if this whitened personage may not have been derived from *La Muerte*, the Death that figures in the Mexican carnival (Huixquilucan, Zaachila) or on the Saint's day at Tlaxco and at Artá, Mallorca. (See Appendix I.)

[30a] Or to the procession to sacred spring or well. The Zuñi summer solstice pilgrimage to the Lake may be compared with the St. John's day practice of bathing the saints, in Mexico.

[31] *Kachina* folk-tales are somewhat fragmentary and at that not many have been recorded; but Stephen recorded one that is a familiar European tale, the misreported order. (*Journal of American Folk-Lore*, vol. 42, 1929, pp. 34–35.)

[32] For the lying-in of the Virgin in Mexico, see Gruening, E., *Mexico and its Heritage*, N. Y. and London, 1928, pp. 251–2.

[33] Lummis, C. F., *The Land of Poco Tiempo*, New York, 1897, p. 276. In the Balearics and elsewhere in Spain, draft animals (also automobiles) are asperged on San Antonio's day. In Mexico all domesticated creatures are asperged on May 3, the Day of the Cross.

Note the images of cattle hung around the neck of the horse ridden by Santiago, in effigy in a church of Michoacán. (Gruening, opposite p. 249.)

[34] Parsons, E. C., Increase by Magic: a Zuñi Pattern, *American Anthropologist*, N. S. vol. 21, 1928, p. 281. That these images of the *kachina* were inspired by images of the saints there can be little doubt.

These fires, I take it, correspond to the *luminarios*[35] of the Eastern pueblos, fires lit on Guadalupe day, December 12, and subsequently till Christmas to light the Child to his Mother. During *Shalako, Shulawitsi* is regarded as the speaker (*pekwin*) to the Sun and *Shulawitsi* is more or less identified with the so-called little war gods who are sons of the Sun, a relationship which corresponds to that between God the Father and God the Son. *Shulawitsi* is the foremost personage in the *Shalako* ceremony which is, I venture to say, the Christmas-Kings' Day celebration of Zuñi. The night of the *Shulawitsi* fires and of the advent of the *Shalako*[36] groups is Christmas eve. The prayers droned by the hierarchy in the foremost house (that of the *Sayatasha-Shulawitsi* group) represent the midnight mass held in the Eastern pueblos, and the subsequent late night dancing corresponds to the dancing in the church which still occurs at Isleta and at San Felipe. During the Christmas-Kings' Day season in the Eastern pueblo there is *kachina* dancing, secretly at night in kiva or, if outdoors, with roads guarded against whites or Mexicans. At Zuñi for a week or more during *Shalako* the *kachina* dance both outdoors and in the houses which substitute for kivas, and only Mexicans are excluded. During *Shalako,* presents of bows and arrows and of *kachina* ''dolls'' are taken to the children in their houses by certain *kachina.* We recall that Kings' Day is the present receiving day for the children of Spain —who set their shoes[37] outside their house to be filled with presents by the Kings, the *Magi.* In Mexico at the *Posadas* or eight night Christmas celebration, clay figures are made as presents, ''figures of the Birth,'' Mary, Joseph, etc.[38] The great pains taken at Zuñi to prepare the houses for the reception of the *kachina* of *Shalako* also suggests the hospitality shown the Holy Family during the *Posadas.*

---

[35] On the Day of the Conception, December 8, a fire—*luminario*—is made in a brazier outside of the Cathedral and outside of the Church of the Conception at Palma, Balearics; and the custom of *luminarios* is found, I am told, in southern Spain.

[36] Of the *Shalako* giant masks there are six, two impersonators to each mask. The mounting of the head on a stick and the snapping jaw or beak are traits of European Christmas animal masks (Miles, C. A., *Christmas,* New York, 1912, p. 201. The separate jaw is to be seen in Guerrero masks. Cp. *Mascaras Mexicanas,* pl. 15). The *Shalako* themselves might represent the visitation of the Angels or the coming of the Kings, bearing precious gifts. The *Shalako* bring prayer-sticks to the house harboring them for the night, and in the center of the roof hangs a placque box containing prayer-sticks to bring increase of children and other blessings to the household. . . . The *Shalako* are referred to as *awan ula,* their representatives—the same term used for the secular officers of Zuñi. Pushing the comparison of *Shalako* with a Mexican Christmas presentation of the *Pastores,* we might see the winged St. Michael in the bird-like *Shalako* impersonations. (Bourke, p. 90 ff.)

What of comparing the Mexican clown Barabbas, one foot bare, the other shod (at Tzintzuntzan, *Mexican Folkways,* vol. I, no. 1, p. 24) with the Zuñi clown *Kachina,* Ho'ho'wi, similarly shod?

[37] Moccasins are given to the Zuñi children during *Shalako.*

[38] *Mexican Folkways,* vol. II, no. 10, p. 31; vol. IV, no. 1, p. 66. The conclusion of the *posada* is dramatized with a procession. (Winter, N. O., *Mexico and her People Today,* Boston, 1907, pp. 227–231.) Among the Indians of Guadalajara the Three Kings appear in masks and among the other masked figures are the *Tastoanes,* eight clowns whose behavior and appearance are suggestive of the *Koyemshi.* Their masks represent ''deformed, almost animal-like, faces with enormously developed noses, great swelled lower lips, warty and knobby cheeks and foreheads.'' (*Journal American Folk-Lore,* vol. 9, 1896, pp. 163–168.) The Christmas clowns of the Tarascan Indians are called *los viejos,* the old ones. They wear ragged garments or an animal skin. (Starr, pp. 71–72.) . . . The Nativity myth of the Tepecano refers to the birth of the Child among the clouds where the dancers patterned after the lightnings, with the thunders for their drums. Devils and shepherds danced the *mitote* (Mason, J. A., Folk-Tales of the Tepecanos, *Journal American Folk-Lore,* vol. 28, 1914, pp. 149–150.) Like the *Shalako* ceremonial, the *mitote*

At one time during *Shalako* the *Koyemshi* make a round of the houses collecting presents of food, the woman of the house saying a prayer and sprinkling with prayer-meal the *Koyemshi* as they visit two by two. These domiciliary food begging or collecting trips are made by the young men on All Souls Day[39] and on Kings' Day, in the Eastern pueblos; and at night whenever groups of dancers, whether performers of the more secular dances, war dances, etc., or of the maskless *kachina* dances such as the Turtle dance of San Juan, visit from house to house to give an abbreviated performance, one boy or man goes with them to receive into his sack, after the dancers withdraw, a present of bread from the woman of the house. In the Mexican towns in the lower Rio Grande the Pastores also went from house to house, receiving largess.[40] Domiciliary visitation, we know, is a characteristic Catholic practice.[41] At Palma, on *Sabado Gloria,* the Saturday before Easter, the *cura* enters every house to asperge it with holy water, refilling his aspergill from the clay jar carried by the sacristan who accompanies him and announces the visit with a watchman's rattle. Into the jar of holy water the people of the house drop a copper. Here one Easter morning I followed a *cura* and a group of about twenty little boys as they went from bake shop to bake shop to sing a little song of blessing and receive cakes for the picnic they were going to have on Easter Monday. On Easter Monday the young people go out into the country "to take a walk," as the Hopi say of a like practice on the day following their prolonged ceremonials.

The name-giving function of the *kachina* may also be compared with that of the Saints. At Nambé and probably in other Tewa pueblos, a child born on the day the *kachina* come, receives a name from one of them, the *kachinas* own name, just as in any Catholic country you may take the name of the Saint's day you are born on. At Laguna, too, I recall a like practice of getting a name from the dancing *kachina.*[42] Cushing noted at Zuñi that names entered in the church baptismal records were *kachina* names.[43] At Zuñi every male has to belong to the *Kotikyane,* the *kachina* society, in connection with which there are two ceremonials, one of naming where the *Koyemshi* visit the houses of the children, each

---

(Mexicanism for the native dancing of the Tepecano, Aztec, Cora, and Huichol) concludes with a dramatization of a deer kill (Lumholtz, C., *Unknown Mexico,* New York, 1902, vol. 1, p. 478). The Christmas dancing by the Huichol is by night in the church. Unlike the custom of native celebrations there is much drinking (*Ib.,* vol. 2, pp. 187–189.) Such was formerly the case at Zuñi at the *Shalako.*

[39] The same practice in Michoacán. Bands of men and boys go from house to house to sing *alabanzas* or songs of praise for the dead. (*Mexican Folkways,* vol. IV, no. 1, p. 68.)

[40] Bourke, p. 91. And compare Mexican practice in general during the Posadas. (*Mexican Folkways,* vol. I, no. 4, p. 17.)

[41] In discussion Doctor Boas, Oliver La Farge and others have pointed out that it is also a widespread Indian trait.

[42] Parsons, E. C., Laguna Genealogies, *Anthropological Papers, American Museum of Natural History,* vol. XIX, pt. V, 1923, p. 191.

[43] *Zuñi Creation Myths,* pp. 333–4. And note the Zuñi practice of making a *kachina* a ceremonial friend (*kihe*), comparable to acquiring a patron saint in adult life. (Parsons, E. C., Ceremonial Friendship at Zuñi, *American Anthropologist,* N. S. vol. XIX, 1917, pp. 2, 7 n. 2, 19.)

Koyemshi taking a few names to remember (a substitute for recording the name in the church record), the other of whipping, when the child is older, whipping by the *kachina*.[44] Ceremonial father or god-father, hair-washing, naming, exchange of presents, prohibition of intermarriage between the families of god-parents and god-child, all these *Kotikyane* practices are also traits suggestive of Catholic influence.

As to flagellation, it is today so much a trait of the *kachina* cult that it is tempting[45] to see its origin in the whips of the Grandfathers, in the ''god whip'' which used to hang in the churches of the Eastern pueblos,[46] and in the practice of the Mexican *Penitentes,* once known as the Third Order of the Franciscans, that mask wearing, self-flagellating brotherhood that keeps a secret, windowless, kiva-like building, its *morada,* acts coöperatively in field work—at Zuñi also, let us note, you may call upon your own *kachina* society division to help you in the fields—and performs funeral ritual for its members, as do the Pueblo societies. Today in Spain (Sevilla and Palma) the *Cofradias* or *Capucheros,* as the *penitentes* are called, figure only in the procession of Holy Thursday, wearing high pointed masks (a *kachina* type also, which at Zuñi belongs to the *Ne'wekwe* and at Jemez also to a clown society), carrying candles, and, in case of a vow, going barefoot or wearing chains. The vow is taken in connection with sickness, as is the vow to entertain the *kachina* by the Hopi or the vow to fill a *kachina* office, by the Keres,[47] or Tewa.[48]

---

[44] Whipping by the *kachina* and naming, also at Jemez. (*The Pueblo of Jemez,* pp. 31, 73.)

[45] However, as early as 1629 Benavides refers to the practice of flagellation, describing it as a test for a captain. The other test he mentions (*Memorial,* p. 31), not laughing at jest or farce, is still in vogue among the Hopi for the novices of the Agave and Horn societies. (Parsons, The Hopi Wöwöchim Ceremony in 1920, *American Anthropologist,* n. s. vol. XXV, 1923, p. 170.) There is also a reference to flagellation in a southern pueblo observed in 1581–2 during the Gallegos expedition. (*New Mexico Historical Review,* vol. 2, 1927, p. 346.) In this account the practice of flagellation was associated with that of stick-swallowing. Flagellation and stick-swallowing are found today in the Cactus society of Jemez, one of the groups showing Pecos influence. I am indebted to Mr. Hodge for the references to Benavides and Gallegos.

[46] Self-flagellation, to bring rain, is practised in Mexican churches, and on Easter Saturday children are whipped to make them grow. (Parsons, E. C., Folklore from Santa Ana Xalmimilulco, Puebla, Mexico, *Journal of American Folklore,* in proof.) In Oaxaca, fruit trees also are whipped, with *palma bendita.* At Tzintzuntzan on Good Friday men wearing white masks may whip themselves before the crosses of the churchyard and streets, in vow fulfilment. In 1925 one youth was completing a seven year vow to pay his saint for recovering from illness. (*Mexican Folkways,* vol. I, no. 1, pp. 24–25.)

[47] See Parsons, E. C., *Laguna Genealogies,* 278 n. 3. A San Felipe man joins the *kachina* organization lest he become sick or because he has been sick—implicit vow pyschology, if not vow form. (Bunzel, R., Notes on the Kachina Cult in San Felipe, *Journal of American Folk-Lore,* vol. 41, 1928, p. 290.)

[48] Or, presumably, the vow to participate in the Deer dance in Guatemala. The Deer dance is in charge of the annually elected *Capitanes del Baile* who take care of the drum. Masks and costumes are in charge of a man in office for life. The prayer from sunset to midnight is conducted by a group of permanent shamans known as the ''good men.'' The dance which is intermittent for fourteen days is supervised by a *maestro.* The dance impersonations are Old Man and Old Woman who seem to own the Deer, two Deer, Jaguar, Puma, Monkeys, Hunters and Women. Except Old Woman, the women's parts are taken by boys, wearing instead of a mask a thin cloth over their faces. (Personal communication from Oliver La Farge.)

In conclusion I should suggest, however tentatively, what the course of development from saint to *kachina* may have been, and what was the distribution of the cult in the Eastern and Western pueblos. First, however, I would state what seem to me to have been the pre-Spanish elements or traits in Pueblo culture which lent themselves to Spanish influence, the traits which were sensitive, so to speak, to a process of acculturation. So far, except in the discussion of flagellation, I have ignored these traits, deliberately, to bring out more clearly the possibly Spanish contributions to the present day cult.

Pre-Spanish Pueblo Traits. The Hopi *kachina* cult shows marked influence from Zuñi. That the Hopi *Shalako* impersonations (including the *Koyemsi*) and dance are direct importations from Zuñi the people of First Mesa are still aware, which means, I take it, a comparatively recent importation, so quickly are such borrowings forgotten by the Pueblos. Their *Shalako,* the Hopi do not consider a ceremony (*wimi*). *Powamu,* the pre-spring cleansing and fertility or crop prognostication celebration, and *Niman* (go home), the July celebration of departing *kachina, are* ceremonies and they may have been borrowed more remotely, from the Zuñi initiation of the boys (a more important ceremony at Zuñi than the child-whipping ritual in *Powamu* where it seems somewhat incidental) and from the last day of the Zuñi *Shalako* ceremony when the *kachina* depart. That the general *kachina* performances of the Hopi have no fixed organization points also to a history of borrowing. But aside from the dance masks, there are among the Hopi a few clan masks which are neither worn nor exposed in public and which have a highly sacrosanct character. Possibly these are of a pre-Zuñi (and pre-Spanish) origin.[48a] At Zuñi, too, there is a distinction in masks, between the more and the less sacrosanct. In certain cases masks are copied to dance in. These masks are not the "real" masks which can be used only at specific ceremonial times. Some of the curing societies have masks of this sacrosanct character. However, the Zuñi curing societies show Keresan influence and although the Keresan curing societies have masks, I incline to think they are of a later development than the fundamental Keresan curing idea of getting power from the animals, more especially the bear, by wearing parts of them, hide or paws or claws. Among the Tewa and the Tanoans masks are a decidedly marginal trait. It was in the west, if anywhere, that the mask was pre-Spanish.[49] Here, consequently, Spanish mask features were welcomed and stimulated native virtuosity. Among the Keres the related idea of transforming into the animal by wearing parts of it would lend itself to the Spanish practice of donning burlesque animal masks.

When the Keresan doctor or shaman puts on bear paws or hide he becomes Bear and has to act like Bear; a mimetic dramatization follows. This feature is conspicuous in the animal dances of the Keres and Tewa and at Taos, in the

---

All the religious dancing in or near the Valley of Mexico appears to be undertaken as a *promesa* or vow, to dance once only or a certain number of successive years.

[48a] And are comparable in function with the pre-Conquest masks of Mexico, stone and inlaid masks, ill adapted, by the way, to dance in.

[49] It is highly significant that no archæological Pueblo mask material has been found; nor do the early Spanish chroniclers refer to mask dances. It seems unlikely that had Benavides, for one, seen masks among the "thousand superstitions" he would not have mentioned it.

Buffalo, Deer, and Eagle dances. In the west this element of dramatization found expression in the *kachina* visitations and dramas like the *Shalako* and *Ky'anakwe* ceremonials at Zuñi, the battle of the *kachina* at Acoma, the *Niman* and *Powamu* ceremonies of the Hopi. Animal mimetism prepared the way for Catholic dramatic and dance processional[50] and for *kachina* dramatizations.

Nor, in this connection, animal mimetism, should we overlook influence from northern tribes, or let us say parallelism with these tribes, if we do not venture to refer to influence from tribes so remote. In several Plains tribes Buffalo and Deer masks are worn,[51] and the Buffalo mask or headdress, is associated with curing ritual. The Tewa-Taos Buffalo dance is undoubtedly of Plains provenience—possibly through the Comanche and Kiowa.[52]

The buffalo horned headdress may have reached Zuñi before the Spanish *demonio* and contributed to the production of the horned *kachina* mask. The Hopi sometimes dance Buffalo in mask as a *kachina* dance.

To the northeast again, to certain traits of the military societies of the Plains, we may look for parallels among the Pueblo which prepared a welcome for the Spanish feature of clowning or burlesque. I have little doubt that the Pueblo clown societies were once such war groups as the military societies of the Plains.

Inverted speech, a trait of the Zuñi *Ne'wekwe,* the Laguna *Kashare,* the *Tsunta tabösh* of Jemez, and the Black Eyes of Isleta, which is a large factor in the development of Pueblo clown humor, is one indication of such parallelism or affiliation. The Pueblo clown groups still act as scouts, more particularly for the *kachina.* They "make the road." The phallic character of the clown groups also points to the sex traits or privileges of the warrior groups of the Plains tribes. Phallicism may become obscenity in humor between the sexes, and obscenity has characterized the relations between the Hopi erstwhile military societies and the women's societies. A more perplexing matter is the possible affiliation of the out and out clown group among certain Plains tribes, groups which are in some cases, the Crow for example, quite independent of the military societies. These Plains clowns wear masks and their behavior in some details[53] is extraordinarily like that of Pueblo clowns.[54]

---

[50] I have in mind the parade of the Saints' images and their performances as dramatic puppets, also the carrying of the Saint through the fields in time of drought or insect pest. Compare the picture of the Kossa of San Juan carrying his patron fetich in a ceremonial for rain, Parsons, E. C., The Social Organization of the Tewa of New Mexico, pl. 17, Mem. 26, *American Anthropological Association,* 1929, with Gage's account of the locust pest in Mexico and Guatemala when the pictures of our Lady and of Saint Nicholas were carried out to the fields. (*New Survey,* 371). (I note also in this account that the Spanish farmers carried back to their farms the wafers and little breads of the Saint to cast them into their corn or bury them in their hedges and fences—food offerings in Zuñi or Hopi style!)

[51] Oglala, Elk, Deer, Wolf, cults; Hidatsa, Buffalo society; Plains-Cree, Buffalo dance; Arikara, Buffalo society. *Anthropological Papers, American Museum of Natural History,* vol. XI, pp. 85, 90, 292, 530, 661, 905.

[52] A ceremonial cache of buffalo horn headdresses is reported from Pecos, the pueblo once in closest contact with the Comanche, and in the Kiowa sun dance complex there is an episode of drawing in from the hillside the buffalo impersonations which is very suggestive of the Pueblo dramatization. (Parsons, E. C., Kiowa Tales, p. 104, *Memoirs, American Folk-Lore Society,* vol. XXII, 1929). The Hopi state that they got their Buffalo dance from the east through the Tewa. (Stephen, *Hopi Tales,* p. 27.) Both the Hopi dance and the Tewa-Taos dance have a curing feature. Buffalo was the outstanding curer animal of the Kiowa.

But to return from the Plains and not raising their question of European influence from another part of the continent,[55] to return to the Southwest, what of the pre-Spanish Pueblo pantheon, what spirits in it prepared a welcome for the saint-like *kachina* who were neither clownish nor animal? Orientated weather spirits. Rain-bringing spirits associated with the directions, "chiefs of the directions," as they are called at Isleta and among the Hopi, existed as a mythological element, I incline to think, before they were represented in mask as *kachina.* Some distinction between the Shiwanna, the cloud or storm spirits, and the *k'atsena,* the mask representations, exists, if obscurely, among the Keres; it may also occur at Isleta, between the *Wenin* and dance representatives (without mask), the *liwan.* Clouds, cloud chiefs or youths of the directions, are distinguished in Hopi ritual and tale from the *kachina.* The cloud directional character of Tewa *kachina* is marked. At Zuñi the Dead are associated with rain-making, but there are also the *Uwannami* or chiefs of directions to whom the rain-priests pray.

Cloud or rain and crop Spirits,[56] mimetic animal dances, burlesque or clowning war societies, and, perhaps, the mask or, at any rate, elaborate headdress and facial pigmentation, these, I am suggesting, were the pre-Spanish traits that made for hospitality for the Spanish religious dance and the development of *kachina* ceremony and ideology from giant, *demonio,* and mock horseman, and from the saints, from the winged St. Michael, from St. John with eagle or with lamb, from saints who live by springs of healing waters, like the Virgin of Lluch (Mallorca) or St. Augustus at Chalma (Mexico), or produce a spring in time of drought, like Santa Margarita of Felanitx, or who walk abroad like the Zuñi *santu* whose shoes wear out so quickly, or like Escapula of Chimayo[57] who would not stay where he was carried until a shrine was built for him just where he wished.[58]

Development and Distribution of the Kachina Cult. Presumably, in the beginning, the Friars contributed deliberately to the process of assimilation. Finding their pagans given to dancing, war dance or mimetic animal dance, would they not seek to substitute for these the religious dances of the Church? What better way of conversion where the difficulties of language must have been so great? In this effort among the Pueblos, the Franciscans would have been assisted by such Mexican Indian converts as might have accompanied them[59] from the south,[60] and at a somewhat later day by the example of Mexican colonists.

---

[53] They wear ragged or dirty garments, and canvas or cloth masks, with mud or clay for pigment; they simulate excessive fear in stalking an animal, fleeing from a dog; they are food and tobacco beggars, making uncouth demonstrations of pleasure in receiving presents; they burlesque anyone, regardless of social distinction; they mimic copulation; they trap recruits; they are said to arrive from a great distance—all *Koyemshi* or *Kossa* traits.

[54] Crow, Plains-Ojibway, Plains-Cree, Ponca, *Anthropological Papers, American Museum of Natural History,* vol. XI, pp. 207–211, 500–505, 528–529, 789.

[55] See *Anthropological Papers, American Museum of Natural History,* vol. XI, p. 504.

[56] Possibly to these might be added as aboriginal a mountain dwelling cannibal giant. Cháveyo of the Hopi is described (Stephen, *Hopi Tales,* pp. 19–21) as one of the early monsters killed by the war gods. To be sure Cháveyo carries a sabre. (Pientsabaiyuna, Mountain Tsabaiyuna, of Taos would make the sign of the cross in the houses he visited at Christmas to lecture the children and to be given bread.) The giant also figures in Navaho mythology.

[57] Parsons, Isleta.

[58] Like the Virgin of Lluch (Mallorca) and other Continental or Mexican saints.

Of these colonists and their descendants there have always been more in the neighborhood of the Eastern pueblos than of the Western. Nor have the missionary connections been as broken in the east as in the west. After the Great Rebellion of 1680 the missionaries did not return to the Hopi at all, at Zuñi early in the nineteenth century the mission was withdrawn to be reëstablished only a few years ago. My guess is that a great deal in the nature of ceremonial adaptation followed the withdrawal of the Franciscan mission at Zuñi. The native hierarchy took over functions of the Franciscans;[61] and the *kachina* cult throve and blossomed: From the same beginnings it had in the east—Saint day dance, the "grandfathers," the animal burlesque mask, and Spanish dramatization, the cult became too distinctive to be recognizable by either Mexican or Pueblo as of Spanish origin. Even the Saint's cult at Zuñi has been described to me by old men as purely Pueblo. The Saint, like other fetiches, including the indubitably Spanish canes of office, came up with them at the Emergence. Having supernatural power, in Zuñi opinion the Saint must be "a veritable antique" *i.e.,* must date from the Emergence.

The *kachina* cult spread from Zuñi, whence in fact it is still spreading, to the Hopi, through the associations with the immigrant group probably Keresan, that had settled at Sichumovi after living some time at Zuñi; to Acoma, where there was no resident missionary; to Laguna;[62] likewise to the Eastern Keres, to Jemez, and circling out, to the Tewa, and even to Isleta and Taos. No doubt even in the eighteenth century this process had begun, but it was in the first half of the nineteenth century, I surmise, that a great impetus was given to the distribution.

At that time as a wholly native cult, the *kachina* cult met with opposition, from the Church, and even in native circles. There is still in Laguna a tradition of opposition to the introduction of the *Chakwena.*[63] As early as 1553 there was a law in Spain against wearing masks. In 1716 and 1745 more drastic laws were enacted.[64] Possibly this regulation influenced provincial administrators or even later missionary friars. Considerations against dancing in Lent[65] may also have influenced the friars. At any rate just as opposition from the Church drove the New Mexican *Penitentes* into hiding, so we may suppose there developed that secretiveness of the *kachina* cult[66] which precludes all Mexicans from looking on at *kachina* dances, and in the East all whites.[67]

---

[59] On the Gallegos expedition were nineteen Mexican servants who remained with the friars in old Sandia. After the friars were killed, one wonders what became of their Indian servants. (*New Mexico Historical Review,* vol. 2, pp. 356, 359.)

[60] Where such dancing had already been introduced (Gamio, Manuel, *The Population of the Valley of Teotihuacan, Mexico,* 1922, p. LI. See, too, *Tribes and Temples,* vol. I, p. 72.) Here, too, as we know, the way was prepared by native dances. Of these Bernal Diaz writes: "One part of the city was entirely occupied by Montezuma's dancers, of different kinds, some of whom bore a stick on their feet, others flew in the air, and some danced like those in Italy called by us Matachines." (*The True History of the Conquest of Mexico,* New York, 1927, vol. I, p. 175.) An intriguing reference, indeed, to the *Matachine!*

[61] See *Increase by Magic,* p. 279; Parsons, Nativity Myth at Laguna and Zuñi, *Journal of America Folk-Lore,* vol. 31, 1918, p. 259.

[62] Notes on Laguna Ceremonialism, *Anthropological Papers, American Museum of Natural History,* vol. XIX, pt. IV, 1920, pp. 97–98, 103. Of some interest is the hearsay at Laguna that the *Chakwena* had been taught at Zuñi by the *padre.*

[63] *Notes on Laguna Ceremonialism,* pp. 97, 108 n. 4; 116.

[64] *Mascaras Mexicanas,* VIII.

[65] Lenten observance was carried into Pueblo ceremonial as "staying still" ritual; but the Church taboo on dancing in Lent would clash with Pueblo ideas about fit times for the

Further inquiry into the history of religious dancing and other religious folk practices[68] in Spain, perhaps among the Spanish colonists of the Canaries,—northern Mexico was settled, it is said, by Canary Islanders,[69] and inquiry into medieval survivals of Mexico as well as into Franciscan missionary records in the Southwest, will throw light, I trust, on what took place there in the Spanish-Pueblo religious life of the eighteenth century and early in the nineteenth. Meanwhile and in conclusion I would call attention to the fact that in Mexico at Gueretaro in 1683 there was established the Colegio de Propaganda Fide de la Santa Cruz by the great Franciscan missionary of Mallorca, Antonio Llinás of Artá, accompanied by twenty-three Franciscans of whom twelve were also natives of Mallorca, natives of the very towns where religious dancing persists to this day.

---

kachina to appear, than which none is more fit than the season of planting. The European taboo on dancing in Lent does not hold in Mexico.

[66] This development may have occurred in still another way, as direct imitation. Fifty years ago or less among the Hopi a white man might witness kiva society ceremonial if he went through the headwashing-naming ritual of initiation. Now Benavides writes of tricking a visiting Navaho out of seeing the Mass at Santa Clara because he was not yet baptized. (*Memorial*, pp. 51–2.) After the subterfuge of getting rid of him he was sent with some Christian captains to their house, ''whereat he afterward became very vexed, because he wished to have seen God in the Mass.'' I recall a like vexation when I was kept in my house by the war captain to preclude my seeing the mask Deer dance at Jemez.

[67] As illustrative of the attitude of secretiveness towards what has been borrowed from the Mexicans as well as of a difference in this attitude between West and East, I may mention an experience at Taos. Here, on January first, the Governor and other officers are sworn into office in American form by officials from the neighboring white town. On the departure of these Mexican-American officials, the canes of office are handed or presented to the secular Pueblo officers by the Pueblo ceremonialists. I had been taken to see the formalities by a townsman of some distinction, but after the Mexicans left the room, I, too, was asked to leave. The ritual of handing the cane, the some time Spanish *vara*, was not to be seen by a white person. Now at Zuñi I had been allowed to see the cane ritual, just as at Zuñi a white person is allowed to see the *kachina*.

[68] Various Saint's day and Easter practices in Mallorca remind me of *kachina* ritual—eight days in advance the Saint's day is announced—*la vuitada*, the eight days; there are Saints' songs (*goigs del sant;* see *Tresor dels Avis*, February, 1922, pp. 28–30). At Alcudia and elsewhere pine trees are set on either side of the door of the church society whose musicians play for the saint—in front of their own house and of the houses of distinguished godchildren of the Saint. Besides adorning the *casa enramada*, pines are set out in the streets; throughout the island it is customary for the neighbors to embellish with pine or myrtle the doors of the saint's godchildren. (Compare among the Pueblos the very close association of saints and *kachina* alike with spruce.) After Holy Thursday dinner at which people eat as much as they want there is a complete fast—the Forty Hours—until the bells ring out on *Sabado Gloria*. For the Easter feast everybody kills a lamb. Special breads and cakes are made at this time and women may be seen carrying them in trays from one house to another, much in the Pueblo manner. Then there are the rituals of consecrating the new water and of making the new fire from a flint (in the Cathedral of Palma) and of carrying the new fire from house to house and the practice of staying up all night, Good Friday, to pray in the cathedral in fulfilment of a vow (*promesa*).

[69] Bourke, p. 89.

APPENDIX

I. RELIGIOUS DANCING IN MALLORCA, BALEARIC ISLANDS, SPAIN

At Alaró, in Mallorca, on August 15, the day of the Assumption, there is a dance by the *cosiers,* six men or boys in white costume[70] decked out with many colored long ribbons at the elbows, shoulders and knees, and caps trimmed with flowers, and about as many other boys or men dressed as girls, holding in one hand a fan, in the other a handkerchief—the *damas.* There are two *demonios,* in rough hemp of wine color painted over with grey spots. They wear masks and a hood with the ears and horns of the ox, a long tail with bells at its end wagging about behind. They are barefoot. One heads the procession with a pole of the flower stem of an aloe with which he clears the way and drives off the curious or irreverent. The other *demonio,* a boy, brings up the rear also with an aloe pole. Behind the leader are drummer and flute player and a tamborine player. Follow the *cosiers.* After vespers the tabernacle of the Virgin is brought out by the priests and the dancers proceed in front, the *demonios* opening the way, springing about, a target for the biscuits and sweets the children pelt at them. Lively play between the children and the *demonios*[71]. . . Arrived at the plaza the procession halts and the *cosiers* dance. Every plaza is visited in turn, then the whole procession returns to the church where the dancers repeat their figure about the Virgin. . . Afterwards young men send sweets to their girls by the *cosiers* who carry the gifts to the house, making their three little leaps every

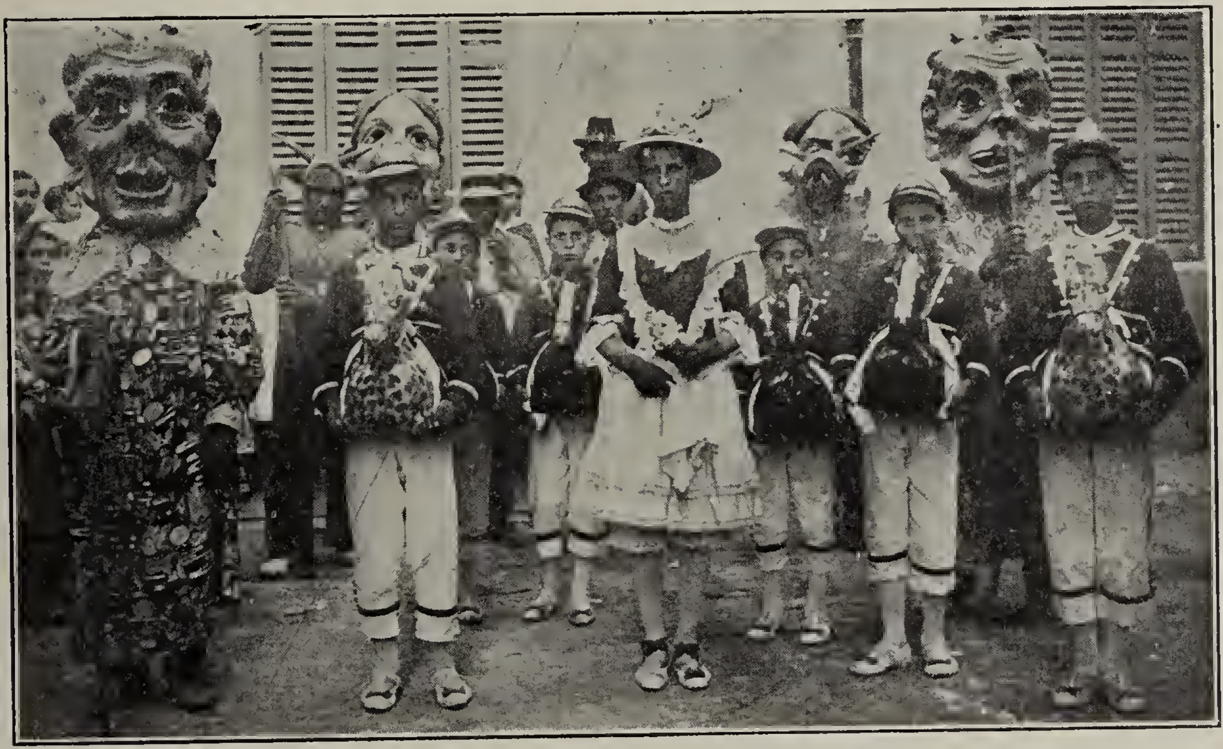


FIG. 1—ELS CAVALLETS. ST. AGUSTIN'S DAY, FELANITX

three steps of their progress. In the evening the *cosiers* dance again inside the church. The following morning, the morning of their Saint's day, after the mayor and other officials have paid homage in church to the relics, the *cosiers* dance again and bring their offerings of corn or a rabbit to the first step of the altar. They dance another figure in the presbytery and then dance out, to the races. . . There are special contests for the *cosiers*[72]. . . Now to conclude, the *cosiers* dance before the most important and generous houses, which the two *demonios* enter for donations of food or money.

---

[70] The *cosiers* wear, I learned from an Islander who has seen the dance at Manorca, a pleated kilt to the knees, and one opinion on the etymology of the term *cosiers* is that it derives from *escoceses,* Scotch.

[71] Compare that at Jemez between the younger people and the clowns (*The Pueblo of Jemez,* pp. 92–93).

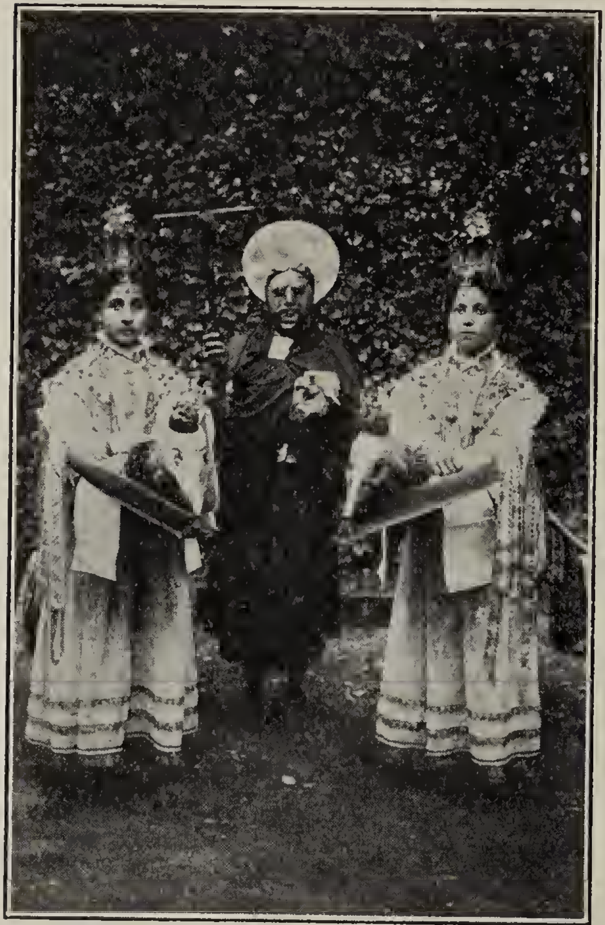


FIG. 1—ST. JOHN AND THE EAGLES. CORPUS CRISTOS DAY, POLLENSA.

At Felanitx, on August 28, the day of San Agustin, six boys, aged ten or twelve called *els cavallets,* carry horse masks of cardboard or canvas. There is one gaily appareled *dama* (Fig. 1). The night of the vigil of this *fiesta* the masks and *dama* with their choir dance before the city hall, and escort the city council to the church. The next morning the performers in couples, accompanied by the acolytes of the saints, visit the houses to receive gifts of money. They then sit down to a feast with the watcher of the chapel. . . . In the afternoon they dance in the square, and assist in the races. Besides these horse masks there are five giant masks. A head of cardboard is placed on the head of a tall man. Two *demonios* in terrific masks clear the way for the giants who will perform some of the dances of the horse masks in slow, awkward movements. . . . On June 24, St. John's day, *San Juan pelos* appears in mask. He moves about town all morning, with a *major domo*[72a] and musicians, with whom he will join in a dance. Later in the church procession he carries a live lamb.

At Pollensa on St. John's day,[73] besides *San Juan pelos* and the horse masks, there are eagle masks, Las Aguilas, the parts taken by two young girls, who dance to their own castanets, and a band of musicians.[74] At Pollensa I was shown the mask of St. John the Baptist (Fig. 2) and the horse masks (Fig. 3) who come out on San Sebastian's day, January 23. All the masks are of painted

---

[72] Compare racing by the *kachina* in the Western pueblos and at Jemez.

[72a] Compare "his father" who accompanies Shulawitsi at Zuñi. The institution of *mayordomia* is of great importance throughout Mexico in the religious organization.

[73] Corpus Cristo day, I was told.

[74] Chamberlin, Frederick, *The Balearics and their Peoples*, pp. 109–114. These accounts are taken, I infer, from Archduke Salvator's monumental and inaccessible work, *Die Balearen in Wort und Bild.*

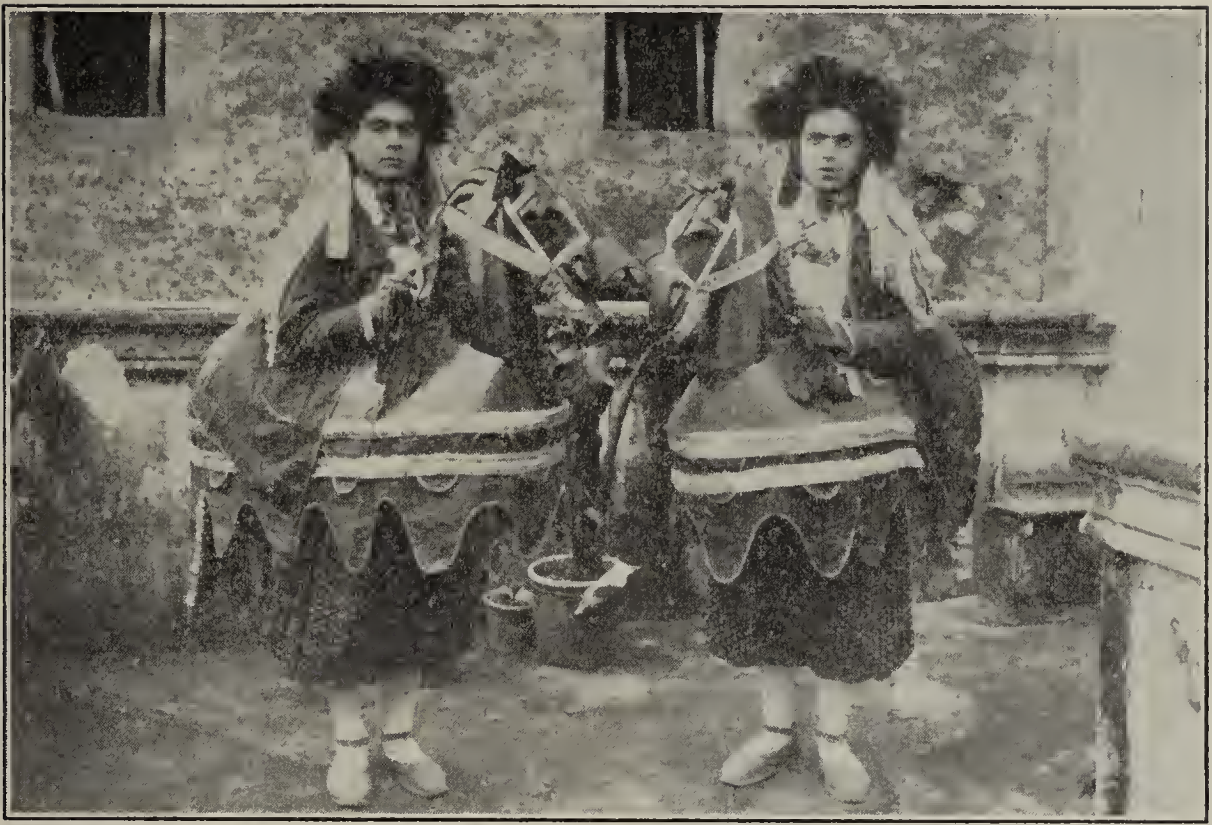


FIG. 3—ELS CAVALLETS. ST. SEBASTIAN'S DAY, POLLENSA.

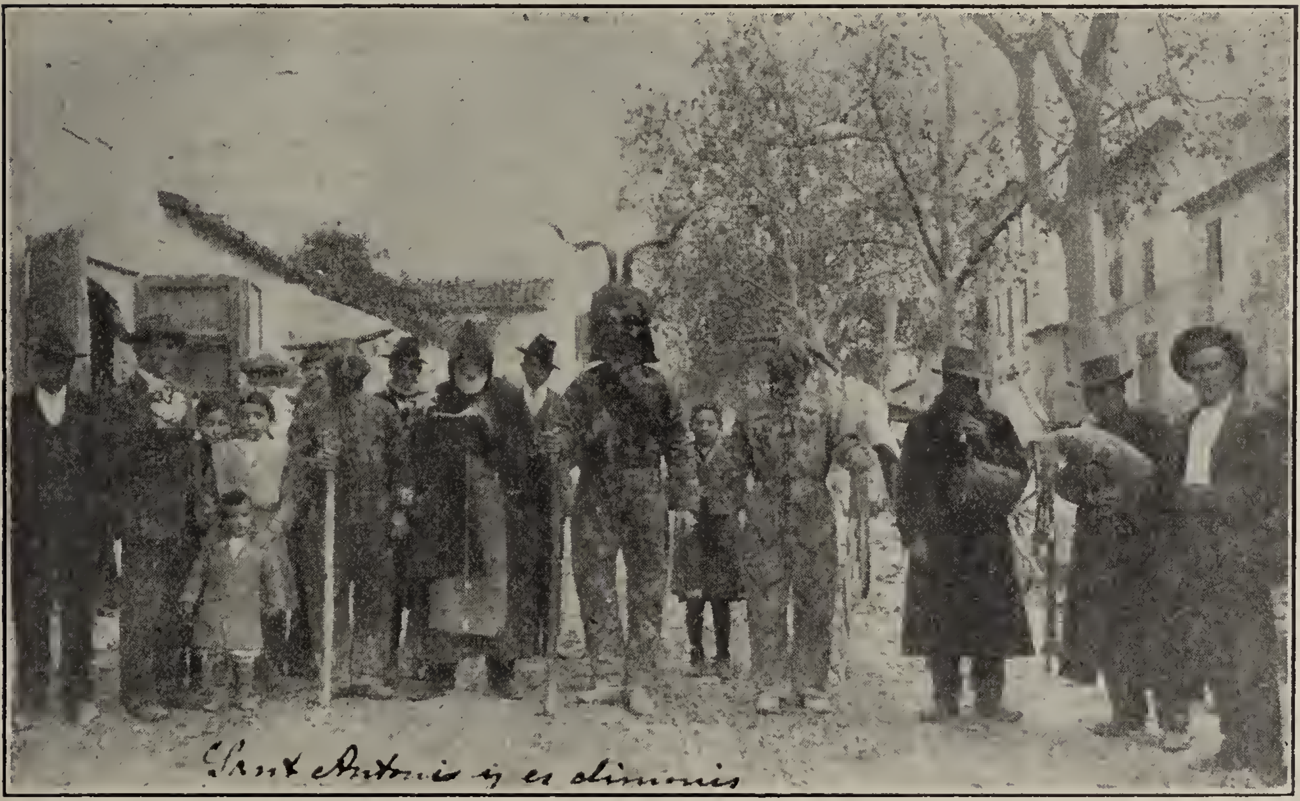

Sant Antoni y es dimonis

FIG. 4—ST. ANTONIO AND THE DEMONS. ST. ANTONIO'S DAY, MANACOR.

metal.[75] The St. John is kept by the nuns of the church of San Jorge and the two horse masks, together with the costumes of the impersonators, by the housekeeper of the *cura* of the parish church, his own sister.

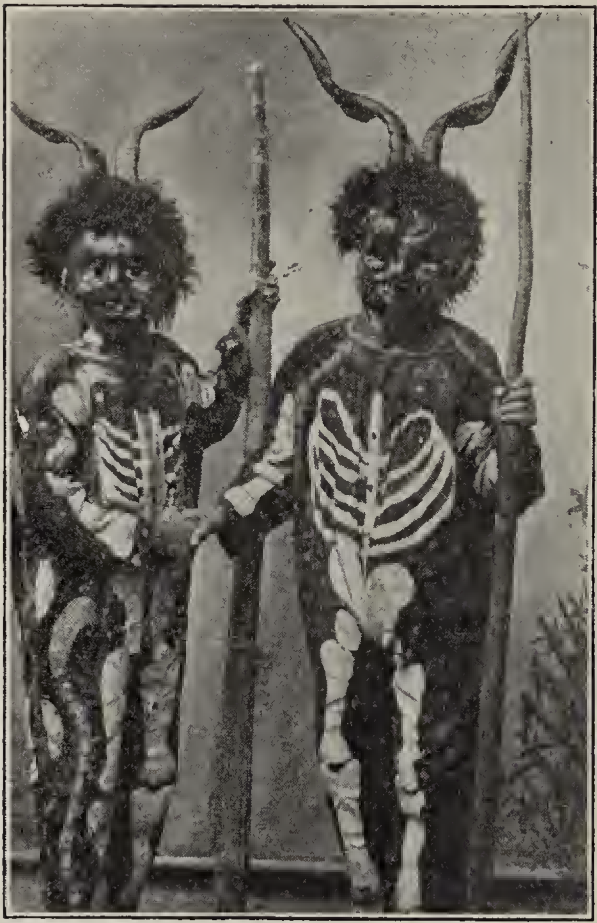


Fig. 5—DEMONS OF ARTÁ.

At Manacor, on San Antonio day, January 13, there is a dance by ten men, *Moretones* or *Moratons* with three demons, one big and two small, two *gigentes,* a *gigente* and *gigenta* with baskets to carry away crying children, and an *alicorn,* who has a horn curving forward from his forehead. There are also some *cabezoudos,* dwarf masks with big heads. San Antonio wears a false beard (Fig. 4). On the third Sunday of September, twelve *cosiers* dance with one *dama* and the two *gigentes.*

At Artá, there is a dance by four *cavallets* and one *dama.* The two demons of Artá are also Deaths or Skeletons. (Fig. 5.)

See, too, in the Catalanian dialect of the Islands, Ferrer Andréu, Els Balls populars de Balears, *Tresor dels Avis,* vol. VI, no. 12, 1927, pp. 90–94.

II. FRANCISCAN MISSIONARIES FROM MALLORCA TO AMERICA[76]

Llinás first went to Mexico in 1665 with the minister of the Province of Michoacán. Llinás began instruction in the convent of Santiago de Gueretaro. In 1667 he went to Zalaya, in 1668 to the convent of Valladolid. In 1671 he became *guardian* of Michoacán. He returned to Spain in 1679 and organized in Mallorca a large missionary group among whom were: Pedro Antonio Frontera of Sineu; Juan Bautista Llatzer or Lazaro of Palma; Antonio Llanzor of Alcudia; Pedro Sitjar of Porreras; Sebastian Bisquerra of Palma; Miguel Fontcuberta of Palma; Miguel Roig or Roche of Lluchmayor; Antonio Perera of Manacor; Damian Massanet of Artá; Antonio Torres of Artá; Antonio Bordoy of Esporlas; Jayme Llinás of Artá; Miguel Mirralles of Montuiri who died at Cadiz.

After a voyage of ninety-three days, including a wreck on Porto Rica, the party reached Vera Cruz. Here they found an uprising and did not stay for long, but went preaching, two by two, through the pueblos, to Gueretaro. Lazaro became president of their foundation. He learned the languages of the Indians. Perera went several times to the pagans, principally to the remote region of the Tejas, where during an epidemic of smallpox he baptized many children in the hour of death. Fontcuberta also visited the Tejas (? Texas).

---

[75] At Alcudia, St. John's Corpus Cristo day mask is of wood.

[76] These data are taken from the manuscript records of the San Francisco monastery at Palma, made available through the graciousness of Fr. Miguel Quetglas.

In 1850 the Franciscan mission house in Mexico was closed and the records, I was told, were lost by fire. Until that date, presumably, the relations with Spain were more or less close. From this house went the missionaries to California and New Mexico. The first bishop of León (California), Rafael Josef Verger, was a Franciscan from Mallorca. He sent home for seeds of figs, grapes, wheat, the fruit *alcaparras,* bean tree, melons, peppers; also for the plans of the cathedral of Palma where in 1783 had been held a Te Deum for his nomination as bishop. He became president of the missionary college at Gueretaro. In 1787 Junípero Serra of Felanitx, Mallorca, went to California, as founder and apostle; and in 1793 he was followed by Bestard Juan Buenaventura, of Benisalem and Palma.

Harrison, New York.

A COMPARATIVE STUDY OF KERESAN MEDICINE SOCIETIES

By Leslie A. White

THE Keresan pueblos are Cochiti, San Felipe, Zia, Santo Domingo, and Sant'Ana, which lie in the Rio Grande Valley between Albuquerque (New Mexico) and Santa Fe; and Laguna (with her outlying colonies) and Acoma (which includes Acomita and McCartys) which lie about eighty miles west of Albuquerque. There is a dialectic difference between the eastern and the western villages. There are many differences in vocabulary and some differences in pronunciation. People from these two districts find it rather difficult to talk to each other at first, but they quickly become accustomed to each other's dialect.

Prominent in the Keresan pueblos are the medicine societies. These are secret organizations of doctors whose chief function is the curing of disease. But they have other functions as well. They are important as rain-makers, they are indispensable at the solstices, and they function at births and deaths. Supreme political control of the village rests, virtually, among the medicinemen. The purpose of this paper is twofold, viz., to sketch the general outlines of the Keresan medicine cult, to describe a pattern which may be taken as a norm for the area, and, secondly, to note the divergences of each pueblo from this type.

The accompanying table shows the distribution of medicine societies by pueblos. Not all of the societies shown for each village are in existence at the present time; many of them have become extinct. In some cases a society has ceased to exist within the memory of old men now living, or within the memories of their fathers. In other instances, we have only the report "they say there

Distribution of Keresan Medicine Societies

	Acoma	Laguna	Sant'Ana	Santo Domingo	San Felipe	Cochiti	Zia
Flint (*hicti'ani*)	X	X	X	X	X	X	X
Ci·'k'amɛ	R	X	X	X	X	X	X
Giant (*cko·yo*)	R	X		X	X	X	X
Fire (*ha.k'anʻ*)	X	R	X			X	X
Snake (*cro.wi*)	X			X	X	X	X
K'apina	X	X		X			R
Shiwanna	X	X		X		X	
Ant (*si'i*)		R		X			X
Bear (*k'ohaiya*)	R			X			R
Eagle (*dya'm*^{i})	R		X	X			
Lizard (*me'yu*)	R						
Boyɛt^{yu}				X			
BɛLaka				X			
Sai'yap^{u}		X					
Sun (*ocatc*)		X					
Ipani						R	

X = Existing now or within recent past.
R = Reported, but presence not certain.

used to be'' this or that society; the degrees of uncertainty vary within rather wide limits.

There is little doubt concerning the Flint society. It is now found in all of the Keresan villages except Laguna and it is quite certain that it formerly existed there. The Giant (*Ck'o yo*) society is not reported for Sant'Ana. It has become extinct in Laguna. It is said that it once existed at Acoma. It is present today in San Felipe, Cochiti, Santo Domingo, and Zia. The *Ci'k'amɛ* society is reported for all villages. It has become extinct at Laguna and at Zia; its former existence at Acoma was asserted by one informant, but it is uncertain. The Fire society exists at the present time at Acoma, Sant'Ana, Cochiti, and at Zia. It has become extinct at Laguna. It has not been reported from either Santo Domingo or San Felipe.[1]

The Flint society is, then, the most widely distributed, with the *Ci'k'amɛ* second and the Giant a close third. The Fire society is fourth.[2] One might assume, on the basis of distribution, that these four societies are the oldest. This may or may not be true, but it is significant to note (as we shall throughout this paper) that these four societies are the most important. This strengthens the hypothesis regarding their age, for it would seem much more likely that an old medicine society would become associated with the caciqueship, for example, or the *koshare* or *quirena,* than a young society.[3]

We may note a few points of interest regarding the rest of the societies. One informant stated that the Eagle society at Santo Domingo was incorporated with the Flint society. The Ant society at Santo Domingo consists of one man only, and he is a Zuñi; he was an Ant medicineman before he left his mother pueblo. The Lizard (*me·'yu*) society is reported for Acoma alone, and, I think, this report is to be regarded as uncertain. The *Boyɛ't*^{yu} and the *BɛLak'a* societies are reported for Santo Domingo only. The *Sai'yap*^{u} society at Laguna is said to have come from Zuñi; it is associated with *Sai'yatasha.* The *Ocatc* (Sun) society is reported for Laguna only. The *Ipani* society is mentioned only by Father Dumarest at Cochiti.[4]

---

[1] I am somewhat surprised not to find the Fire society at either Santo Domingo or San Felipe. Juggling with fire seems to be more important in the west than in the east; some of the Zuñi societies have fire ''orders,'' and the Fire society at Acoma is conspicuous for its feats of fire juggling and sword swallowing. Perhaps the fire society is not found so widely in the east because of the decreased importance of fire-play. At Cochiti the Fire society is included within the Flint society together with the Snake group. This may account for the non-existence of the Fire society at Santo Domingo and San Felipe, two of the most typical of Keresan pueblos.

[2] I place the Fire society fourth, although the Snake society would seem to deserve that position, because the Snake society at Acoma and at San Felipe is not an organized group as are the other societies, nor does it have the same functions. It is simply an aggregation of men who have been cured of snake-bite and who are supposed to have the power to cure others. At Cochiti the Snake society is incorporated within the Flint-Snake-Fire group.

[3] Data supplied by Bandelier supports us well at this point. He calls the heads of the Flint, Giant, and *Cikame* societies the three great shamans. The Flint shaman is said to be more prominent than the other two. Bandelier, A. F., Final Report, Pt. I, *Papers of the Archaeological Institute of America.* Vol. III, Cambridge, 1890, pp. 278–282.

[4] I can only speculate concerning the presence of those societies which are represented sporadically in the Keresan area, such as the Lizard, *Ocatc* (Sun), etc. I am inclined to believe that the great number of curing societies at Santo Domingo is due to its size and to its central

We may now consider the several pueblos with regard to the three or four most widely distributed (and most important from the point of view of social organization and ceremonialism) curing societies, which we may consider as constituting a norm for the Keresan area. The first three of these four are found today in Santo Domingo and San Felipe. All four are found at Cochiti; but the Fire society is included within the membership of the Flint society. There is some doubt about the existence of the *Ci·′k'amɛ* society at Zia. My informant stated that it had become extinct not long ago. Mrs. Stevenson, however, does not mention this society at Zia. Although it was said that the Giant and the *Ci·′k'amɛ* society once existed at Acoma, only the Flint and the Fire (of the first four) have been found there within the last two or three generations. All four of the societies are reported from Laguna, which would seem to place it close to our norm. But the presence of the *Sai′yap*^{u} and the *Ocatc* (Sun) societies indicates an atypical position. Moreover, data for Laguna are not entirely satisfactory, due to the advanced stage of disintegration of its social system. Data are not complete for Sant'Ana, either. Nevertheless, three of the four norm-societies are to be found there.

Santo Domingo, San Felipe, and Cochiti, then, would seem to correspond most closely to the Keresan norm from the point of view of distribution of the most important societies.

"Schools" of Medicinemen. There are four "schools," (so to speak), of medicinemen in the Keresan area, viz., the Snake, Lightning, and Ant medicinemen, and those who cure ailments caused by witches. The fourth group or "school" is by far the most important.

The data regarding the Snake society are somewhat confusing. At Acoma the Snake medicinemen are simply an aggregation (not an organized society) of doctors who treat snake bites; they are men who have themselves been cured. It is not necessary, however, for everyone who has been cured to join this group; one may become a Snake shaman (after being cured) if he wishes to. The snake shamans do not have the paraphernalia nor the "power" (derived from beast gods) which the regular medicine societies possess. They do not cure as a group; a single shaman treats his patient. They are simply snake doctors. This same situation is found at San Felipe.

At Zia, the Snake society appears to be a "regular" medicine society, i.e., in the same sense as the Flint or the Giant societies (which belong to the fourth group, mentioned above). Mrs. Stevenson states that for this society the "snake order was essential." She also states that it had a special house, outside the pueblo and at initiation the shamans handled live snakes. She describes a rain ceremonial for the Snake society, but does not give specific facts regarding their

---

location in the area; it is subjected to a great number of influences conducive to borrowing and its great size not only makes possible a large number of societies but actually encourages them because of an increased (potential) creative capacity. The presence of the *Boyɛ′t*^{vu} and the *BɛLak'a* societies is, perhaps, due to the luxuriance of ceremonial creativeness thus fed by numbers and stimulated by contacts. The *Sai′yap*^{u} society at Laguna and the Ant society at Santo Domingo are to be traced to Zuñi. Whether or not the Ant societies reported from Laguna and Zia are to be similarly traced is an open question. I cannot account for a Lizard society at Acoma and an *Ocatc* society at Laguna. Are they local creations, vestiges of a more ancient past? Or are they errors of informants?

curing functions. I am inclined to believe that this society at Zia differs from the aggregations of Snake doctors at Acoma and San Felipe, that they constitute a medicine society of the kind to which the Flint or the Giant societies belong. Needless to say, specific data from Zia on this point would be most welcome.[5]

At Cochiti, the Snake society is a part of the Flint group, i.e., in order to be a Snake shaman one most also be a Flint medicineman. Goldfrank states that sometimes the Snake shamans are called upon to treat snake bites, but that the differentiation in functions of the societies is very slight indeed.[6]

Data for Santo Domingo are ambiguous on this point. My notes however, seem to indicate that the Snake society is to be regarded as the equivalent of others, such as Flint, Cikame, Giant, etc.

But whether the Snake medicinemen at Cochiti, Zia, and Santo Domingo constitute a ''regular'' medicine society or not, the fact remains that groups of doctors whose sole function is to treat snake bites are found in Acoma and San Felipe. This is sufficient to characterize them as a ''school,'' for they are different—in principle, paraphernalia, and function—from the other medicine societies.

The Lightning (or *Shiwanna*) medicinemen treat persons who have been struck by lightning. (They also treat broken bones.) At Acoma, the *Shiwanna* medicinemen are organized into a society and have a head man. At solstices, they go into retreat. At times when the Fire and Flint societies are having a communal curing ceremony, the *Shiwanna* society prays and sings for rain and for crops. In addition to treating broken bones and lightning shocks, they treat ''bad smells in the stomach.''

At Santo Domingo, the *Shiwanna* medicinemen are included within the Giant society.

At Cochiti, the *Shiwanna* (Thundercloud) society is composed entirely of women. They assist the Giant society at its retreats, at which times they symbolize clouds with suds.

At Laguna, the *Shiwanna* medicinemen were those persons who had survived a shock of lightning and who wished to become *Shiwanna* shamans. They treated lightning shocks and broken bones.

With regard to the *Shiwanna* medicinemen, then, we are justified in grouping them in a ''school'' apart from other societies, since they differ in principle and function.

The ''Ant School'' of medicinemen is based upon the notion that ants cause ailments, such as sore throat, skin troubles, etc. They enter the body, usually when one is urinating on an ant hill, and then affect the throat or skin. Cures are effected by drawing the ants to the surface of the body with prayer and song and then wiping them off with broom straws.

The best example of a Keresan Ant society is to be found at Zia. But, strangely enough, the curing ceremony for a sore throat caused by ants which

---

[5] I learned last summer that three Snake shamans still function in Zia.

[6] Father Dumarest states that the Snake society cures the bites of poisonous animals. Notes on Cochiti, *Memoirs, American Anthropological Association*, vol. 6, pt. 2, Lancaster, 1919, p. 188. (Edited by Elsie Clews Parsons.)

Mrs. Stevenson describes in considerable detail is attributed to the Giant society rather than to the Ant group.

The Ant society at Santo Domingo is, as we have already seen, represented by one man, and he is a Zuñi and was a shaman before he left his native village.

The Ant society is reported for Laguna, but we have no details regarding it.

The medicinemen who are of real consequence in the Keresan pueblos are those organized into societies for curing ailments caused by witches. Curing disease is their major function, but they have others as well, which we shall note in due time.

The world (of the Pueblo Indian, at least) is infested with many evil spirits (*K’anadyai′ya,* witches). The sole purpose of these witches seems to be to make Indians sick. (There is a feeling that witches won’t injure white people. This robs the argument that Indians should use white doctors instead of their own of its force: witch-sickness is peculiar to Indians and only their medicinemen can cure it.) They accomplish this in two ways: they either shoot such things as thorns, pebbles, rags, broken glass, or even a small live snake, into the body of some unlucky person, or, they steal his heart and make off with it. (The first method is more commonly used.) The medicinemen must remove these objects from his body or retrieve his heart from the witches, or the patient will die. Witches are wont to assume any guise; they appear as an owl, a dog, a burro, as a *Koshare,*[7] or as a person. It is said that sometimes a person is born with two hearts, one good and one bad; then he will very probably become a witch Pueblo Indians themselves are not infrequently found to be witches.

When a person is ill he may ask to be treated by a medicineman or by a society. If the illness is not severe, one medicineman, only, will come. But if the patient is very ill, or wishes to become a member of the curing society, the whole society will come. The father of the patient summons the doctor (or society) by taking a handful of meal to the doctor selected or to the head man of the society.

When one doctor, only, comes to treat the patient, the procedure is simple. He smokes, sings, mixes medicines in a bowl of water, puts ashes on his hands and massages the patient’s body, and sucks out any objects that he locates. But, when a whole society comes, there is an elaborate ceremony in which considerable paraphernalia is used. Usually a society spends four days in its house in preparations before visiting the patient. Then, when they go to his house, the medicinemen smoke, sing, and pray over the sick one for three nights and on the fourth have their final curing ritual. But, if the condition of the patient is critical, they will perform the curing ritual at once.

Up to this point there are no important differences between the pueblos; the basic ideas are the same, and the procedure of summoning doctors is quite uniform. At Acoma a society is summoned with *waBa′n*^{i} (feather bunches) as well as cornmeal.

Detailed accounts of curing ceremonies may be read in various works.[8] We shall here sketch the ceremony in outline and list the items of paraphernalia. A meal painting is made and paraphernalia laid out. The chief item of paraphernalia is the *iarriko,* or corn-ear fetich.[9] Each doctor receives one at initiation. It is returned to the head man at death. It is the badge *par excellence* of the medicineman. Stone figures of *Masewi, Oyoyewi, Pai'yatyamo, K'oBictaiya,* and of lions, bears, badgers, etc., are laid out on the meal painting. The medicinemen do not possess power to cure disease in and of themselves; they receive it from animal spirit doctors (the bear is the chief one, others are mountain lion, badger, eagle, etc.). Meal lines are drawn on the floor from the door to these stone figures; when the songs and prayers are begun the spirits of these animal medicinemen come in, pass over the “roads” of meal, and invest the stone images. Medicine-bowls, skins of the forelegs of bears, flints, eagle plumes, rattles, etc. are used. A rock crystal (*ma caiyoyo* or *ma coitca'n*^{i}) is used to obtain second sight.

---

[7] The *Koshare* are felt to possess powers of black magic; hence, this association with witchcraft.

[8] See Parsons, Elsie Clews, Notes on Ceremonialism at Laguna, *Anthropological Papers, American Museum of Natural History,* vol. XIX, pt. 4, New York, 1920; Dumarest, Father

The medicinemen wear only a breechcloth. Their faces are painted red and black and they wear a line of white bird-down over the head from ear to ear; songs are sung, the head man tells the people present to believe in the medicinemen, that they are doing their best, etc.; water is poured into the medicine-bowl from the six directions, each doctor puts some herb medicines into the bowl. The doctors rub their hands with ashes and massage the patient. When they find some foreign object they suck it out and spit it into a bowl. The rock crystal is used to locate objects in the body and to “see witches.” Witches gather about a house during a curing ceremony; they wish to harm the patient further or to injure the doctors. They have been heard to rap on the door (at Cochiti) and call to the doctors, defying them. The War Captains and their assistants always stand guard outside the door during a curing ritual. They are armed with bows and arrows, since rifles would not hurt a witch.

Frequently the doctors decide that the heart has been stolen by the witches. Then it is necessary to find it and bring it back. This almost always means fighting with the witches. They go out armed with flint knives; they wear a bear paw on the left forearm, a bear claw necklace, and a whistle of bear bone. The war chief's guards try to accompany the medicinemen when they leave the curing chamber, but the doctors travel so fast it is impossible; sometimes the medicinemen leave the ground entirely and fly through the air.

These combats with the witches are occasions of great moment. Cries and thuds can be heard in the darkness. The witches sometimes tie the queues of two or three doctors together and leave them in a tangled mass on the ground. Or, a medicineman might be found lying on the ground bound with bailing wire, his knees under his chin. The witches try to overpower the doctors by blowing their breath, the odor of which is unbearable, into their faces. Sometimes the doctors have to seek refuge in the church, when the witches “get too bad.”

But sometimes the medicinemen capture a witch. He is usually man-like in shape and about a foot and a half (although he may be as large as a man, or he

---

Noel, *Notes on Cochiti;* Goldfrank, Esther Schiff, The Social and Ceremonial Organization of Cochiti, *Memoirs, American Anthropological Association,* No. 33, Menasha, Wis., 1927; and White, Leslie A., *The Pueblo of Acoma* (to be published).

[9] A picture of this fetich may be found in Mrs. Stevenson's The Sia, *Eleventh Annual Report, Bureau of American Ethnology,* Washington, 1894. Also, Doctor Parsons describes one she saw at Laguna, *Notes on Ceremonialism at Laguna,* p. 96.

may be in the form of some animal). Often he looks like a *Koshare.* He squeals when they bring him in. They place him before the fireplace and then call the War Chief in to shoot him with a bow and arrow. The medicinemen frequently return smeared with blood or "black" after a fight with witches. Often, too, they fall into a spasm or lose consciousness upon their return.

The medicinemen come home with the heart (*wi′nock*). This is a ball of rags with a grain (or four) of corn in the center. The patient is given this to swallow.

When the ceremony is over and everyone has been given medicine to drink, food is brought out (stew, bread, and coffee). The medicinemen eat first, then the people. Baskets of cornmeal and flour are given to the medicinemen in payment for their services. They gather up their paraphernalia and go home.

There is a great degree of uniformity among the Keresan pueblos in the performance of the curing ritual. Of course, there are many variations between pueblos, and even within a pueblo, but these do not have much significance. There are, however, some differences which are of importance. At Acoma, for example, a wooden slat altar is used at cures; it is called *yaBai′cını.* Mrs. Stevenson's description of a curing ceremony by the Giant society at Sia informs us that a wooden altar is used there, too. But at Santo Domingo, San Felipe, and Cochiti, no such altar is used. At Santo Domingo and at San Felipe (and, at Cochiti, I believe—the data are not explicit on this point) no wooden slat altar is used. Instead, they have a meal painting on which stone gods and animals are laid. The meal painting is called *yaBai′cını* (the Acoma term for the wooden altar.) But at San Felipe and at Santo Domingo the medicine societies have a wooden altar which they use at solstices (and presumably at retreats) which they call *ai′tcın.* (At Cochiti an "altar" is used at retreats and perhaps at solstices, but it is not stated what "altar" refers to—a wooden structure or the layout of paraphernalia on a meal painting). At Acoma and at Sia,[10] then, the wooden slat altar is used at cures; at Santo Domingo and San Felipe they are used at retreats and solstice ceremonies, but not at cures. This difference, I believe, is quite important for historical reconstruction, but the full significance of this inconsistency of Keresan usage is at present far from clear.[11]

Another difference, though a minor one, concerns the corn-ear fetich. At Acoma it is called *ho′nani* (which is the Hopi word for badger); at Laguna it was called *ia'tik*^{u}, and in the eastern pueblos the term is *ia'rik*^{u}. The last two are, of course, similar, but I can not account for the Acoma term.[12]

---

[10] Acoma seems to be more closely related to Sia than to the other Rio Grande Keres. Bandelier concludes from Acoma folklore that the Acoma people once lived with the Sia people. Final Report, pt. II, *Papers of the Archaeological Institute of America,* Cambridge, 1892, p. 313.

[11] There is no doubt, I believe, but that curing functions of the medicine societies are much older than their rain functions. Also, I feel that the use of a slat altar by a curing society is a comparatively recent practice. Suppose we assume that slat altars originated with the curing societies of Zuñi. One would expect them to be used for any function performed by them. Now suppose that slat altars spread eastward along with the *Kachina* cult (which I believe was comparatively recent, and from west to east in direction). Acoma, being close to Zuñi, assimilated the altar to curing, initiation, and solstice functions, and extended the term *yaBai′cını* to include it. But when it reached the Rio Grande pueblos it had become identified, through association with rain functions. So it was not used in curing ceremonies. The summer dance series which is found at Santo Domingo and San Felipe is much more congenial to this usage than Acoma practice, where there is only one large masked dance during the summer for rain. This explanation seems quite plausible, but I must admit it leaves me far from satisfied.

The pueblos differ somewhat as regards the "heart" (*wi'nock*) which the medicinemen retrieve from the witches. At Cochiti this heart is sometimes in the shape of a rag doll, but at other pueblos it is a ball of rags. At Acoma a heart, a communal *winock,* is used at the communal ceremony; this is not reported from any other pueblo. The number of grains of corn within the heart varies, but this is a minor matter. The patient swallows the corn. Sometimes at Santo Domingo the heart is cut open and the corn examined. Then it is put into a bowl of hot coals and placed under a blanket beside the patient so that the smoke will bathe his body.

On the whole, the Keresan pueblos are quite uniform regarding the cause and cure of disease; the fundamental ideas are the same, and there are only a few significant differences in paraphernalia and ritual.

A communal curing ceremony is held in February or March by the medicine societies of the several pueblos. These ceremonies are held at the direction of the Cacique or the War Chief. The chambers of the societies are used. The ceremonies are synchronal for the various societies within a village. The paraphernalia and ritual are the same as at curing ceremonies in the home of a patient. Most of the people of the village attend. They are "cured" indiscriminately by the doctors; objects are extracted from their bodies, and all are given medicine to drink. Acoma has as additional features the recovery of a communal heart, which contains shelled corn; everyone is given one kernel. Also, the Acoma doctors go out and exorcise evil spirits from houses and livestock.

Membership. Membership in the medicine societies is for life. Both men and women may become members, but only men perform cures, the women merely assist. Children, too, may join, if they are old enough to keep the secrets. There is a head man called *nawai'* or *naicDi'a* (father) as the chief of the society. He is nearly always the oldest and most experienced member. He calls meetings, directs ceremonies, and performs some special duties. A man is a medicineman because he has been made a member of a society, not because of any talents of his own. And only members of such societies possess the secrets and the power to cure disease. Apparently resignations from a society never occur; it seems to be unheard of.

The most approved way of becoming a member of a medicine society is to join after having been cured of a serious illness. But one may apply for membership voluntarily, without having been ill. (Very few ever do this, however). Then there is a third way of getting members, viz., "trapping" them. If a person has violated some ceremonial prescription—such as building a fire outdoors during an initiation ceremony—he may be compelled to join. "Trapping" a person, though, seems to be reported from Acoma only. It is done also at Zuñi, incidentally.

Initiations. Data on initiations are not complete, because much of the work is esoteric and no medicineman has yet served as an informant. There are some things known, however. The initiate is trained, usually through a period of years. During this time he is probably instructed in paraphernalia, ritual, songs, prayers, medicines, feats of magic, etc. It is thought by some non-members that the novices are subjected to some physical torture and possibly to some filthy rites. But this is largely conjecture. The final episode in the initiation, however, is a public ceremony, held in the society's chamber, in which the novice is put through a final stage, and at which he demonstrates to spectators his newly acquired powers of curing and of magic. In the final ceremony at Santo Domingo medicinemen wearing bear legskins on their forearms beat the novice and knock him down ‘‘so he won't be afraid of witches.’’ At Acoma the Fire society throws its initiate on to a bed of live coals. At Zia the Snake society handled live snakes at initiation times. On the final eve the novice is presented with an *ia′rik’o* (corn-ear fetich) which is his badge of office. At Acoma the novice goes about the chamber on the eve of his induction and ‘‘cures’’ people. He also takes seeds of various kinds from pictures painted on the walls.

---

[12] *Ia'tiK*^{u} is the mother of all the Indians. She was with them at *Cipap'* at time of the emergence.

In spite of local differences the following general principles characterize the initiation of persons into a curing society: (a), a long period of training and preparation; (b), fasting and continence and confinement before the final step; (c), physical pain; (d), the presentation of the fetich; and (e), (sometimes) an exhibition of theurgistic skill.

Relation of Curing Societies to Other Groups and Officials. There is a very close relationship between the Flint society and the *Koshare* and between the *Ci′K’amɛ* and the *Quirena.* At San Felipe all of the Flint shamans are *Koshare* and all *Ci·′k’amɛ* are *Quirena* (but the reverse is not true; not *all Koshare* are Flint shamans nor all the *Quirena* members of the *Ci·′k’amɛ* society). At Santo Domingo the memberships are said to be identical. At Cochiti practically the same relationship prevails. At Laguna there seems to have been an affiliation between the *Ci·′k’amɛ* and the *Quirena,* but the Flint and *Koshare* societies were separate. At Acoma the *Koshare* are extinct, but there does not seem to have been a close bond between them and the Flint society. And at Acoma the *Ci·′k’amɛ* society is extinct and the *Quirena* did not exist in its eastern form.

The Giant society at Cochiti is closely related to the *Curdzi* society which had charge of the *Kachina* organization. Masks were kept in the Giant society's house. There was an affiliation of the Thundercloud (*Shiwanna*) society with the Giant society at Cochiti. At Santo Domingo the *Shiwanna* society was practically identified with the Giant society. At Laguna the Giant society once had charge of making new masks. Masks of the Turquois kiva at San Felipe were kept in the house of the Giant society.

At Cochiti the *Ci·′k’amɛ* society was also the hunter's society. At Zia it was the Cougar society. At other villages the *caiyaik′* were the hunting shamans.[13]

There is an affinity between the Flint society and the warriors' society. At Zia the Flint society officiated in the scalp dance of the O·pi. At San Felipe the Cacique, who is head of the Flint (*Koshare*) society is custodian of scalps. At Santo Domingo the scalps are kept by a Flint shaman. At Cochiti the war captains were chosen by the Flint society. The Flint (and *Ci·′k’amɛ*) society at Laguna participated in the scalp dance. At Acoma the only association comes through the *Koshare*; the *O·pi* and *Koshare* appropriated the chamber, usually used by the Flint society, during the scalp dance. At Zia the Flint society and the warriors society had a chamber in common. One might think that the association of the Flint society with the Warriors was due to the close affinity of the former for the *Koshare* which was very closely allied to the *O·pi*. And it does seem likely that the custody of scalps at San Felipe rests in the hands of the Cacique (Flint head man) because he is also *Koshare*. The same condition seems to prevail at Santo Domingo. But I fail to find any close connection between *Koshare* and Flint medicinemen at Zia, where the Flint society was closely associated with the warriors. The Flint and *Koshare* societies were quite separate at Laguna.

---

[13] Bandelier states that the Giant head man was the chief shaman of hunting and that the head of the *Ci·′k’amɛ* society ‘‘may be considered as the leader of the shaman of medicine.’’ *Final Report*, pt. I, p. 280.

One must conclude, I think, that the association of the Flint society with the warriors is a primary one and not derived from the Flint-Koshare affiliation.[14] (Whether or not the Flint-Koshare affinity is due to their common interest in war I am not prepared to say. There may be other reasons than war, but certainly this factor assists to bring these two groups together.)

There is an affinity between the Flint society and the Caciqueship. At Cochiti, Santo Domingo, and San Felipe the Cacique is a Flint shaman (the head of the society). The last Cacique at Laguna is said to have been a Flint shaman, but it is stated that this was not necessary. The Cacique of Acoma is not a medicineman. At Zia Mrs. Stevenson reports that the Cacique was a member of the Giant society, but that his position as *tiamoni* (Cacique) ''had nothing whatever to do with his relations in the cult societies in which he held membership.''[15]

Bandelier states that in case a legitimate successor to the Caciqueship (among the Keres) should refuse the office ''and he has the right to do it, almost always the *Histanyi-Tshayanyi* is selected (in his place), because of his greater knowledge of the essential secrets.''[16]

Medicine Societies and War Priests. The War Chiefs and their assistants must always guard the medicinemen at their cures to protect them from witches. At Acoma the *KaBina* shaman (the head of the Flint society since the *KaBina's* death in 1926) whips the war chief at his installation.

Relation of Medicine Societies to Kachina Cult. During the summer the medicine societies go into retreat, *i.e.,* they retire to their chambers for four days and nights during which time they perform rituals designed to produce rain. Data concerning these retreats are meager because they are almost wholly esoteric. Mrs. Stevenson describes in detail rain ceremonies of the Giant and Flint societies of Zia. A slat altar is erected and a sand painting made. Fetishes are laid out. Suds are mixed in a cloud bowl and sprinkled to the six directions over the altar and paraphernalia and over the medicinemen. Prayers are said for rain and songs are sung. Prayersticks are deposited. I presume that the ceremonies in other villages are somewhat similar. At San Felipe it is said that when the medicinemen go into retreat they go back to *Cipap'*, to the breath of

---

[14] Bandelier says that the head of the Flint society is the principal shaman of war. *Final Report,* pt. I, p. 280.

[15] Stevenson, *op. cit.,* pp. 93, 97.

[16] *Final Report,* pt. I, p. 280.

ia'tik^{u}, and to bring back the *K'a·'ts'ɩna*. A masked dance should immediately follow the conclusion of a retreat, but sometimes the men are too busy in their fields to dance. At Santo Domingo and at San Felipe the medicinemen, during a retreat, visit the men who are practising for a masked dance at night, set up their fetishes, and sprinkle the men and masks with medicine. When the masked dancers come into the plaza the medicinemen are present, one usually leads the dancers or is near the head of the line.

This is the general rule. San Felipe and Santo Domingo seem to be most typical in this respect, although Cochiti seems to be close, too. Data from Zia are too indefinite for an adequate estimate, but I have a feeling that conformity here is rather close. Masked dancers are led into the plaza at Zia by medicinemen.

There are a number of points at which more direct contacts are made between the medicinemen and the *kachina* organization. As previously noted, masks are kept in the house of the Giant society at Cochiti, and masks of the Turquoise group at San Felipe are kept in the Giant society's house. At Cochiti, too, there was a special relationship between the Giant society and the *Curdzi* who managed the *kachina* organization. At Laguna new masks were made by the Giant society.

At Santo Domingo the *nawai'* (head man) of the *Ci·'k'amɛ* society whips young men at their initiation into the Pumpkin group of the *kachina* organization; he wears a *sɩmɩk'ɩrɩ* mask at this time. The Flint society head man, wearing a *Tca·Kwena* mask, whips men who are being initiated into the Turquoise division of the *kachina* organization. (No masks are used at San Felipe at initiations into the *kachina* organization. Data from Zia and Sant'Ana do not cover this point.) At Acoma the young men (and girls) are whipped by a medicineman wearing a *Tsitsŭnits* mask at initiation into the *kachina* organization.[17]

At Acoma, also, there are a number of masks which may be worn only by medicinemen (almost always the Flint shamans).[18]

Then there is some slight use of masks by the medicinemen in their own initiations. At Cochiti the Giant society has one mask, that of the Turkey Buzzard (*macawi*), which it uses when new members are initiated. (At San Felipe the *Quirena* use *HoDok'oli* masks in their initiations. Many *Ci·'k'amɛ* medicinemen are also *Quirena*, but this would hardly warrant our saying that the curing society used the masks). At Santo Domingo it was said that two men from the Turquoise kiva (and *not* medicinemen) wore *sai'yatac* masks at initiations into the Giant medicine society. Also, one *Hililika* mask was used at *Boyɛ't*^{yu} society initiations. These statements, however, were not corroborated by a second informant; hence, they must be held tentative until confirmation can be secured. But I feel the statement that the *Ci·'k'amɛ* society uses *Wi'Korū* masks in initiations into the *Quirena* society is valid. Masks were not used either in cures or in initiations at Acoma or Laguna. Data for Zia are not explicit on this point, but one would expect some mention of the fact by Mrs. Stevenson had such practice existed at Zia.

---

[17] *KaBi'na tcaia·n*^{i} used to whip them, but since the extinction of this society the Flint head man performs this function.

[18] These masks are, for the most part, those of *K'atsɩnα ho·tcɛni* (chiefs) such as *A'aiiKa'n*^{i}. They also impersonate the head men of the *K'oBictaiya: Dziukɩrɩ* and *K'ok'ɩrɩ*.

On the whole, then, there is little actual wearing of masks by the medicinemen; indeed, I feel that they have only recently done so. But the rôle of the medicinemen in retreats, in ''bringing the *K'a·'tsɪnɑ* to the pueblos,'' assisting in the plaza at dances, sprinkling the masks, etc., is very important.

Medicine Societies and Solstice Ceremonies. At each solstice a ceremony is held by medicine societies to reverse the course of the Sun. At Santo Domingo the medicinemen erect their slat altar and lay out their paraphernalia in one of the kivas; on the eve of the solstice they sing and pray and then dance ''like *shiwanna*'' all night. At San Felipe the same thing is done; sometimes they have a masked dance (in the plaza in summer and in the estufa in winter). At Cochiti the Flint, Giant, and *Ci·'k'amɛ* societies re-paint the *k'oBictaiya* and the masks; they also deposit kick-sticks, miniature bows, hoops, and javelins, etc., for the *shiwanna.* At Sant' Ana and at Laguna all-night ceremonies were held by the curing societies at solstices; prayersticks were made and deposited. At Acoma the medicine societies retired to their houses where they set up their altar; there was an all-night ceremony. They make a small suit of clothes for the Sun. They take the miniature garments, together with prayersticks, accompanied by the War Priests, to a point on an eastern mesa which is the place where the sun has risen at the end of his course. The clothes and prayersticks are buried here, at the Sun's house (*Ocatc k'am*). All-night ceremonies, with altar and paraphernalia, are held at Zia.

Although initiated by the Cacique, the burden of solstice ceremonies is really carried by the medicine societies. An all-night ceremony of song, prayer, and dancing before their altar and paraphernalia, and the making of prayersticks are the chief items. Apparently all of the pueblos are quite similar in their observance of these occasions; there are no differences of much significance.

Special Rain Functions. In time of severe drought, the medicine societies have special retreats and fasts. If the medicinemen fast and no rain falls, they catch a frog (at Cochiti) and tie him to a stake, by a foot, in a sunny spot; the frog calls for rain. At Laguna, special retreats were held in time of drought at which the medicinemen danced like the *k'atsina.* At Santo Domingo, the medicinemen put prayersticks in the irrigation ditches in the spring when the people begin to get them ready for the summer. At Laguna the *k'api'na* shamans were said to have deposited prayersticks stained red, to allay high winds.

Medicinemen and Childbirth. Four days after a child is born at Acoma a medicineman is called to the house. He comes long before dawn and makes a sand painting on the floor. On this he places a corn-ear fetich (the *ho'nani,* or *i'ariko*), a bowl of prayersticks, and perhaps some other fetich. He takes the baby out and presents him to the rising sun, gives him a name, and ''breath'' from the cardinal points. At actual childbirth, Acoma shamans do not assist; women serve as midwives. At Cochiti, a Giant shaman is usually called at childbirth. ''He sees whether the baby is in the right position, and if not, tries to turn it by manipulation. He also massages the woman to hasten delivery.''[19] At Zia, a medicineman may be called by an expectant mother. But his services are almost wholly magical; practical aid is given by a midwife. The shaman makes a little sand bed upon which to receive the baby. He gives the expectant mother medicine to drink and sprinkles ashes around to purify the place, *i.e.,* to exorcise evil spirits, or witches. He strokes the woman's body, with downward movements, with his feathers; this is to hasten delivery. Medicinemen are not called at Santo Domingo unless the woman has great difficulty in delivery. In such a case one or two medicinemen are called in; they massage the woman. (Ordinarily a midwife suffices at Santo Domingo.) At San Felipe, a woman serves as midwife. But sometimes the head of the Giant society is called in.

---

[19] Goldfrank, *op. cit.*, p. 76.

The rôle played by medicinemen at childbirth is a minor one. No significant differences emerge from a comparison of pueblos, except the sand-painting-naming ceremony at Acoma (and perhaps the sand bed at Zia). The Giant society seems to have a peculiar affinity for magical obstetrics.

Medicinemen and Death. At San Felipe the head of a medicine society comes at once to the house of the deceased. He places a wooden stick which has been used to poke the fire (charred on one end), and an ear of corn, in the place where the corpse lay. (The body is buried promptly at death.) The poker and corn remain for four days. On the fourth afternoon the head shaman comes, accompanied by two helpers. He removes the charred stick and the corn and puts three *i'arriko* (corn-ear fetiches) in their place. He and his helpers sing. Then the head man takes the burnt stick and the corn ear and his helpers take the belongings of the deceased (which have been ceremonially killed), and go out to the hills in the north to deposit them. The medicinemen are paid for their services. At Santo Domingo medicinemen come at death. They do not bury the body, but they ceremonially bury it in the form of the burnt stick and corn ear (which is the deceased's body and heart), which the mother of the deceased placed where the body lay. They take these out and bury them in an arroyo. This is done three days after death. When they come they set up their curing paraphernalia and sing while the parents of the deceased hold *i'arikos* to their breasts. At Zia the head man of a society performs a death ceremony on the fourth day after the death and burial. He goes out to the north where he deposits a prayerstick and a bowl of food. Four days after death (and burial) at Cochiti, an entire society performs a ceremony at the house of the deceased. An altar is erected. Food, miniature garments, and prayersticks are taken out and buried by a shaman on the north road. Medicinemen painted the faces of deceased at Laguna with clan designs, "so *i'atik*^{u} would know who they were." Faces of deceased were painted by medicinemen at Acoma.

The medicine societies are quite important in death ceremonies, more so than at birth. No important differences distinguish any pueblo from the norm, except, perhaps, Acoma and Laguna, which seem to lack the ceremony held four days after the burial.

Medicine Societies and the Selection of Officers. We have already seen that the Cacique at Cochiti, Santo Domingo, and San Felipe is a Flint shaman. And the cacique appoints the pueblo officers: at Santo Domingo the *Ci·'k'amε* head man assists; at Cochiti the War Captain and his assistant are chosen by the Flint society, the Governor (and his assistant) and the Fiscale (and his assistant) by the Giant and *Ci·'k'amε* societies respectively. At Zia, the Cacique may be a medicineman (he belonged to the Giant society when Mrs. Stevenson was in Zia). He appoints the officers, but the consent of the medicinemen is always asked. At Acoma the cacique selects the officers, but the medicinemen may override his choice and select a man of their own liking.

When the appointments are announced, the medicinemen are present; they exorcise and "charge with power" the canes and staffs (*ya'Bi*) which are given to the new officers.

In political control of the pueblo, then, the influence of the medicinemen is almost paramount; in instances where the selections are not made by the medicinemen themselves, or by the Cacique-shaman, the medicinemen must grant their approval of men chosen.

Conclusion. There are a few salient points which stand out in our comparative survey of Keresan medicine societies. The Flint, Giant, and *Ci·'k'amɛ* societies are the most widely distributed and the most important. And of these, the Flint society is preëminent, due to its close connection with the caciqueship, the warriors's society, and the *koshare;* it is said to be the "head society." The Giant society seems to have an affinity for the *kachina* organization and for the rank and file of the people; its connections with the *kachina* cult are close, and at childbirth the Giant shamans seem to be preferred. The close association between the Flint society and the *koshare* and between the *Ci·'k'amɛ* society and the *Quirena* must, I feel, be taken as a typical Keresan feature. Acoma is perhaps the most aberrant in this respect.

There is great uniformity among the seven villages regarding the fundamental notions upon which the medicine cult is based: the cause of disease, and the paraphernalia and ritual of curing ceremonies. But the difference in usage of the wooden slat altar at Acoma and Zia, on the one hand, and Santo Domingo and San Felipe, on the other, is great enough to be very significant. *What* it signifies, however, one may only conjecture. I feel, though, that a solution of this puzzle would illuminate some very important facts in the development of the medicine cult.

The term *ho'nani* applied to the corn-ear fetich at Acoma instead of *i'ariko* seems also to indicate an event of importance in the history of the cult.

The rôle of the medicine societies in solstices and in rain ceremonies is very prominent; indeed, the medicinemen seem to be as necessary to the rain cult as to the curing of disease. Their rain functions, however, are secondary to curing; paraphernalia adapted to the medicine cult is employed in rain ceremonies, as Mrs. Stevenson's *The Sia* well shows. I feel that the medicinemen have become more prominent as rain-makers since the introduction of the *kachinas,* which are, beyond doubt, much more recent than curing societies. The actual contacts between the medicine societies and the masks are not very numerous, and they give every evidence of being recent: witness, for example, the recent custody of masks by the Giant society at Cochiti and at San Felipe. The fact that only a few societies use masks in their initiations and cures certainly points to a more archaic condition where no masks were used; with the growth of the *kachina* cult in the pueblos the masks are being adapted to a variety of uses. And why shouldn't they be? They are attractive and impressive, and reasons for having a *kachina* rain-maker participate in curing ceremonies could easily be found.

In the rain cult, then, I should say that the retreats of the medicinemen are the most important, then their assistance during the dances, and lastly, their custody and painting of masks.

At childbirth the medicinemen play an unimportant rôle. Their chief assistance is magical, and it is not at all necessary. Acoma seems to be most conspicuous in this respect. The Giant society seems to be a trifle closer to childbirth functions than the other societies.

Medicine societies are much more important at death than at birth. Very often no shamans are summoned at childbirth, but every death is followed by a ceremony. But in this case, too, they render only supernatural aid. The *fiscales* usually bury the body. Then four days after, the medicinemen symbolically bury the heart and body of the deceased, and speed the return of his spirit to *Cipap'* (the place of emergence where *iatik^u*, the mother, lives).

The rôle of the medicine societies in the annual selection of officers is almost supreme throughout the area. In cases where the doctors (or a cacique-shaman) do not themselves choose the officers, they approve the selections made.

The three major functions, then, of the medicine societies are the curing of disease, retreats for rain, and the selection of pueblo officers, of which the first is most fundamental. In former times, no doubt, war functions were as important as retreats, or perhaps more important, at least as far as the Flint society was concerned. The medicinemen are really secondary at solstices; although they carry much of the burden, it is really the cacique who is in charge. The assistance of the medicinemen at masked dances is, too, a rather minor function, as well as their custody of masks.

I should like to attempt an hypothetical reconstruction of the historical development of the Keresan medicine societies. But it must be understood that such a sketch *is* an hypothetical one, made up largely of inference and conjecture, and, consequently, must be held as tentative. But the societies *do* have a history and one may hypothesize about it as well as puzzles of today. Moreover, I believe that the nature of the present-day societies will be illuminated somewhat by such an historical hypothesis.

The "original" function of the medicine societies was curing diseases. Their paraphernalia consisted of a few stone figures and some herb medicines. Because they were persons who were trained to traffic in supernatural power, their aid was enlisted in war and scalp ceremonies. Also, they were asked to assist at birth and death for the same reason. There was gradual elaboration of ritual, such as the addition of the crystal for second sight, the color symbolism for the cardinal points, and perfection of feats of magic.

With the growing importance of agriculture, the curing societies undertook ceremonies for rain. This, too, was probably due to the fact that medicinemen could cause supernatural forces to influence human destinies. The fact that the paraphernalia (and much of the ritual) of the rain ceremonies was designed *for curing* seems to indicate quite clearly the time sequence; machinery for treating disease was adapted to rain-making.

At first, the rain functions of the medicine societies were confined to their chambers, with some public dances (such as sword swallowing at Acoma and at Zuñi). They were assisting at solstices at this time, too. Then came the *kachinas*.[20] The origin of this cult is, of course, to be attributed to a source other than the medicine societies. But with its growth, the medicinemen became inevitably involved; almost all important functions in the pueblo are shared by all the important officers and societies. Perhaps the wooden slat altar came into use at about this time. The private retreats of the curing societies were made public by the masked dancers. The masked dance also serves to complete the psychological cycle implied by the retreat; the retreat is the prayer, the dance the answer (symbolically). The dance is the *motor* counterpart of the *spiritual* retreat. In this way the medicine societies became involved in the *kachina* cult. Through exigencies of housing, custody of masks has fallen into the hands of curing societies (an established fact at Cochiti and San Felipe). Gradual association with masks is tending toward their use by the medicinemen in their initiation and curing ceremonies. Also, there are some masks which may be worn only by medicinemen (Acoma, especially).

This hypothesis, it seems to me, observes due restraint and caution and it seems to render more intelligible all of the elements which go to make up the medicine cult today.

A final word regarding the relative positions of the several pueblos with reference to the Keresan norm. I feel that Santo Domingo and San Felipe are most typical, as they seem to possess the greatest number of characteristic features. Cochiti and Zia, however, are not far behind. Sant'Ana, Laguna, and Acoma diverge most widely. I think it very significant that the medicine societies should show the greatest degree of uniformity where disease and cures are concerned; the greatest differences are found where other functions are performed. This, it seems to me, is of historical significance, again indicating that curing is the primary and most archaic function, and that the other elements are later accretions and elaborations.

UNIVERSITY OF BUFFALO AND BUFFALO MUSEUM
OF SCIENCE,
BUFFALO, NEW YORK.

---

[20] I have never found evidence of use of masks in the pueblos in the accounts of the early Spanish explorers.

THE NAVAHO POPULATION PROBLEM

By Frederick L. Hoffman

Of all North American Indian tribes, the Navaho is one of the outstanding examples deserving of much more consideration than has heretofore been given to this group of interesting and numerically well represented people. The Navaho, happily, has preserved most of his original characteristics, and while probably considered civilized in the crude sense of the word, yet lives much as of old, except that a decidedly war-like tribe has become thoroughly peaceful and exceptionally law-abiding.

They are, broadly speaking, almost entirely of pure blood in so far as any measurable amount of white intermixture is concerned. But curiously enough, they have received only the fragmentary attention of anthropologists and no adequate account of them has ever been published corresponding to the exhaustive observations upon numerically much less important tribes. The present discussion is largely concerned with general population problems and race survival. It is sincerely to be hoped that some time in the not too distant future some one competent to do so will essay upon the Navaho as has recently been done in such an admirable manner by Doctor John R. Swanton in his account of the *Social Organisation and Social Usages of the Indians of the Creek Confederacy.*[1]

Early Population Estimates

Preliminary to any observations upon the people, some consideration must be given to the Navaho country which has been scientifically and thoroughly described by Professor Herbert E. Gregory in a report by the United States Geological Survey in 1916.[2] I am unaware of any other description of the Indian country which corresponds in matters of detail to this excellent discussion of the physical aspects of the particular region, almost exclusively the property of one Indian tribe. It is a vast country, which it was my privilege to examine and explore from time to time during the last fifteen years, but of which as yet I have no more than a fairly superficial knowledge. It covers about 22,400 square miles, or an area larger than Connecticut, Rhode Island, Massachusetts, and New Hampshire combined. The distance across the reservation from east to west is not quite two hundred miles, while from north to south it is about one hundred fifty miles. The district came under American jurisdiction about eighty years ago as the result of the Mexican war. At that time, the Navaho were a decidedly war-like people and it was not until about 1865 that they were brought completely under subjection. The early military history of our Navaho wars and disturbances is another dismal chapter in our record of Indian relations. The country itself is forbidding and hostile to entry except by modern means of motor-car conveyance and over modern roads which have replaced faint Indian trails of the past. The numerous military expeditions between 1846 and 1860 collected much valuable information but, as Professor Gregory points out, nearly all of it remains unpublished. The outstanding report of the period is by Lieutenant Simpson of an expedition under Colonel Washington in 1849. Simpson's report is a classic in Navaho literature. It was published as a Senate document with illustrations and maps in 1850. Unfortunately no detailed enumeration or estimate of the population was attempted, which was approximately placed at 10,000. Of course, an accurate census, considering the disturbed condition of the country at the time, would have been quite out of the question.

---

[1] *Forty-second Annual Report, Bureau of American Ethnology,* Washington, 1928.

[2] *Water Supply Paper,* no. 380.

THE NAVAHO COUNTRY

The Navaho are still sheep-herders on a large scale, that being in fact the predominating industry, besides their blanket weaving, in which they excel all other American tribes south of Alaska. Once more quoting from the account of the Navaho country by Gregory, I include the following interesting topographical description.

> "In its larger topographic relations the Navajo country is part of the Colorado Plateau province, a region of flat-lying or slightly tilted rocks cut by canyons and surmounted by mesas and buttes. About 32 per cent of the Navajo country lies between 6,000 and 7,000 feet above sea level, and 10 per cent between 7,000 and 9,000 feet. Only 156 square miles out of a total of 25,725 square miles lies below 4,000 feet, and only 42 square miles exceeds 9,000 feet. The extremes of relief are Navajo Mountain, 10,416 feet, and the mouth of Little Colorado River, 2,800 feet above sea level. Along the line of Bridge Canyon an extreme range in elevation of 7,000 feet is attained in a distance of 8 miles. Broadly characterized, the region is a plateau in which the depth of canyons about equals the height of mountains; in other words, the downward departures from a general surface at about 5,500 feet are nearly equal in amount to the upward departures. Two of the mountain masses, Carrizo and Navajo, are laccolithic in origin and rise domelike above the surrounding country. . . . Mesas of the second and third order and innumerable buttes, of both igneous and sedimentary origin, are characteristic features of the country. Mesa, butte, volcanic neck, canyon, wash, repeated indefinitely, are the elements of the Navajo landscape. Alcoves, recesses, and miniature erosion forms of great variety and rare beauty stand as ornamental carvings on the larger architectural features, and over all is spread an unevenly developed sheet of wind-blown sand."[3]

This, in brief, is the Navaho country. Parts of it are covered by tall timber of oak, pine, cypress, and juniper, but most of the area is a desert region sparsely covered with sagebrush and greasewood. It is suitable in its major portion chiefly for sheep-raising, and this, in fact, constitutes the principal interest of the Navaho as a source of revenue. I have been given to understand by those who are familiar with the facts that in proportion to the area, the Navaho raise more sheep and more wool per sheep than is raised on contiguous areas under cultivation by the whites. They are industrious in their way and satisfied with their surroundings. Fortunately the area is of such vast extent that broadly speaking they are let alone and suffer little from white intrusion.

---

[3] Gregory, Herbert E., The Navajo Country, A Geographic and Hydrographic Reconnaissance of parts of Arizona, New Mexico, and Utah, *United States Geological Survey, Water Supply Paper 380,* Washington, 1916, pp. 21–22.

RACE, TRAITS, AND MODE OF LIVING

Probably as a result of their physical environment, the Navaho are a frugal people. While their dietary habits have not been thoroughly studied, they appear to live largely on mutton, cornmeal for bread and mush, and coffee. They have little milk on account of the absence of dairy cows, except at a few Reservation schools. They have some goat milk, but its possibility as a food product is utilized only to a very limited extent. They purchase some canned goods in limited quantities, much like the whites, chiefly tomatoes, corn, and fruits. They appear to use salt in normal quantities for dietary purposes, but information on this point is somewhat conflicting, due to the fact that some of the salt bought is used for industrial purposes in connection with blanket weaving. They grow vegetables other than corn to a very limited extent, but show considerable aptitude in this direction. As a result of their limited diet, they appear to be undernourished and there is a lack of disease resistance, particularly against tuberculosis and other respiratory affections. There are no statistics available as regards their physique other than such as I myself have collected on a very limited scale and which are not conclusive. Investigations into the physical anthropology of the Navaho are urgently called for and would certainly prove of much practical value. The statistics of height and weight of Indian children, based on heterogeneous material, are useless for practical purposes. The Navaho may be considered a meat-eating tribe in its preference for mutton over other dietary products. I am given to understand that they will eat prairiedogs and show a decided liking for the meat of this animal. Since the prairiedog is a predatory rodent, its extermination is much to be desired. The use of this animal as food might be encouraged if there are no nutritive objections. It has been estimated, on the basis of careful experiments by the Biological Survey of the Department of Agriculture, that

> ''prairiedogs destroy 69% of the wheat grass and 99% of the dropseed, or 80% of the total potential annual production of forage.''

As far as I am aware, no systematic efforts for the destruction of this rodent in the Navaho country have ever been made. The effect of the destruction of forage for sheep and other livestock must be very serious.[4]

LATER POPULATION ESTIMATES

Passing from these general observations regarding the Navaho country, I will now briefly consider the anthropological aspects of the question. The Navaho are of Athapascan stock, which includes a large range of tribes, particularly in northern Canada and Alaska. According to an account published in connection with the Indian Census of 1910:—

> ''Of all the stocks in North America, the Athapaskan covers the largest area, and, with the exception of the Eskimauan, has the greatest range of distribution. . . . In continental United States its main territory lay in Arizona, New Mexico, and northwestern Texas.''[5]

---

[4] See *Bulletin 1227, U. S. Department of Agriculture,* August 19, 1924.

[5] Indian Population in the United States, 1910, *Bureau of the Census,* Washington, 1915, p. 77.

The total number of Indians of Athapascan stock in 1910 was 30,406, exclusive of about 500 of this stock distributed among the general population. The chief tribes of this stock are the Apache and the Navaho. The total number of Apache enumerated in 1910 was 4973. Of the Navaho, I quote the following account in some detail:—

> "When first known to Europeans in the early seventeenth century they were located in northern New Mexico and Arizona and southeastern Utah. In the sixties a large proportion of the tribe were held as prisoners at Bosque Redondo in eastern New Mexico, but later were returned to their original home. Since 1867 they have remained on the reservation set apart for them in northeastern Arizona, northwestern New Mexico, and southeastern Utah, the numbers enumerated in 1910 in these states being 11,001, 10,354, and 1,039, respectively. The total number enumerated was 22,455."[6]

In addition to the foregoing, it is said:—

> "The enumeration of the Navajo is of necessity somewhat uncertain owing to the local conditions. The tribe is a nomadic one, roaming over a very large extent of country, so that an absolutely accurate enumeration would be an extremely difficult, if not impossible task. Comparison, therefore, with returns of even greater uncertainty (since founded almost wholly on estimate), made in the reports of the Commissioner of Indian Affairs are of little real value. In a few instances the numbers given, however, are evidently based upon partial counts of a large proportion at least of the tribe. In 1876 the total was given as 11,868 and in 1886 as 17,358. Beginning in 1894 a sudden rise is noticeable to over 20,000, and again in 1905 a still greater rise,—in one year from 21,379 to 28,544. The discrepancy between this figure of about 28,000 which has been returned in the reports of the Commissioner of Indian Affairs with little variation since 1905, and that of 22,455, obtained by the present census, is large. That 28,000 is a figure somewhat too large and that the numeration of the census is too small seems probable. An exact enumeration, however, is, as already stated, practically impossible."[7]

OBSERVATION OF DOCTOR MATTHEWS

The foregoing is a rather lame explanation of the failure of the census enumerators to do their work as thoroughly and completely as the urgency of the problem required. But granting both conclusions as to incompleteness of the census of 1910, and the probable errors in the estimates of the Commissioner of Indian Affairs, it is probably safe to assume that in 1910, the Navaho population was approximately 25,000. In 1890, the Navaho population on the Navaho Reservation of Arizona was returned at 11,042, or respectively, 5,676 males and 5,366 females. The Navaho Agency in 1890 was given as containing 12,821 square miles, while the total Indian population was 17,204, including Indians other than Navaho, the facts not being accurately indicated. There was published in a footnote in the Census Report of 1890, an extract from a letter by Surgeon Washington Matthews, United States Army, one of the outstanding authorities on the Navaho, which I quote as follows:—

> "I know of no reliable estimate of the number of the Navaho tribe since they were released from captivity at the Bosque Redondo in New Mexico. During their captivity reports of the War and Interior departments at that time gave accurate enumerations of these people. Very few escaped captivity. During their stay at the Bosque their numbers were greatly reduced by

---

[6] *Ibid.*, p. 78.

[7] *Ibid.*, pp. 78–79.

> disease. Since their return from captivity to their own lands they have undoubtedly increased steadily until about two years ago, when in one winter some 800, it is estimated, died of a disease of the throat, the precise nature of which I can not learn. I was not here at the time. Since that epidemic has passed away they have been doing well again. All statements as to their population made in the last twenty years are conjectured.''[8]

To this he adds a note that:—

> ''There is no notable physical deterioration as yet among the Navajos. Their general health and power of resisting disease seems to me as good now as when I first came among them, 11 years ago. Consumption and scrofula, those worst enemies of reservation Indians, have not yet troubled the Navajos.''[9]

Recent Population Estimates

The Census Report of 1890 contains an excellent description of the population and of the social and economic conditions of the Navaho. But practically all statistics contained therein are now long antiquated and no longer of much value, except as milestones in the progress which the Navaho have made in the meantime. The account repeats the statement that after their liberation from Bosque Redondo, on the basis of a treaty made in 1868, their numbers did not exceed 10,000, being referred to as ''the unhappy remnant of the once most powerful tribe of the southwest.'' The tribe seems to have been enumerated in 1877 when their number was 11,768.

It is evident from a careful reading of the available literature on the subject, official or otherwise, that no thorough attempt has, in the past, been made to obtain a reasonably complete enumeration of the Navaho. It is very true that their wide distribution over an immense area, combined with their nomadic habits, makes such an enumeration difficult but not impossible. But all accounts seem to agree that previous to 1890 the number of Navaho did not much exceed 10,000 and that by 1910 the probable number did not much exceed from 20,000 to 25,000. Hence the question is of the very greatest possible importance as to whether during subsequent years this apparent rapid increase in population has been maintained. According to the report of the Commissioner of Indian Affairs for 1927 the Navaho population of the different jurisdictions in the Navaho country was as follows: Hopi Agency, 2,750; Leupp Agency, 1,231; Southern Navaho Agency, 12,602; and Western Navaho Agency, 7,500; a total of 24,083. But to the foregoing must be added the Navaho in jurisdictions of the Navaho country in the state of New Mexico, as follows: Northern Navaho Agency, 7,000; Eastern Navaho Agency, 3,000; an aggregate total of 34,083.

The Navaho Census of 1928

The foregoing estimates have given rise to speculation as to their accuracy in view of the apparent rapid increase of the Navaho population. After giving the matter extended and thoughtful consideration, the Commissioner of Indian Affairs, Honorable Charles Burke, decided upon the taking of an accurate census about July 1, 1928, by new methods giving a more reasonable assurance of completeness. The census plans provided, among others, for the finger-printing of every Indian enumerated, in conformity to accepted rules of procedure, and the furnishing of a consecutively numbered disk to every Indian as a method of permanent identification. The census is now (1928) in progress, for experience has shown it is utterly impossible to enumerate the entire population on a given date, but this is not essential in view of the safeguard implied in the finger-printing and disk method.

---

[8] *Report on Indians Taxed and Untaxed in the United States, at the Eleventh Census: 1890*, Washington, 1894, p. 154.

[9] *Loc. cit.*

PRESENT-DAY PROBLEMS

Should the foregoing anticipation be realized the population problem of the Navaho assumes profound practical importance. As has been pointed out at the outset, a large area of the Reservation is a barren, sterile desert country unsuitable for agriculture, stock-raising, or otherwise. Since the chief interest of the Navaho is sheep-raising and will always continue to be that, many demands have been made for the purchase of additional lands by the Government more suitable to the needs of the Navaho population. The herds of sheep are increasing, while as the result of stock improvement, the wool yield has also augmented with larger per capita returns to the sheep-owners. The conviction has been forced upon me that the necessity is not so much for more land as for range improvement on the one hand and for more irrigation on the other. The most urgent need of the Navaho county is more water, and more in this direction seems possible than has thus far been done, although considerable sums of money have been spent by the Government towards explorations for irrigation development. The subject cannot be dealt with on a general principle for the whole country, but must be dealt with locally as the conditions suggest. But there is no question of doubt but that the available range for sheep-raising purposes is becoming restricted in view of the population increase.

THE NAVAHO TODAY

Many of the earlier observations on the customs of the Navaho and their mode of living, manners, morals, habits, etc., are hardly applicable to the Navaho of the present day. In a report on the Navaho tribe by Jona. Letherman [Letterman], Assistant Surgeon, United States Army, to the Smithsonian Institution in 1853, are many comments which are not justified in the light of present-day knowledge of these people. It has always been the habit of military writers to underrate the moral qualifications of people whom they are sent out to subdue or control. All the vices are on their side and all the virtues on ours. Thus, when Doctor Letterman remarks that "their morals are extremely loose" and that their system of morality is exceedingly defective, he may have dealt with facts accurately in individual cases, but certainly his statements are not generally justified in what is known of the characteristics of these people. Present-day conclusions are quite to the contrary and to the effect that the Navaho are about as moral in their relations as any of our Indian tribes, for sexual diseases among them are much less common than in the population at large. They have been accused of being given to pilfering, which is not uncommon among primitive people; but so far as I could learn, they are thoroughly trustworthy and not generally given to dishonest practices, although sharp in driving a bargain. The women are modest and always well behaved. The children are courteous, reticent, and gentle. However primitive their home-life may be, it is home-life in the true sense of the word. They are practically pure-blooded, for of intermixture with the whites or other Indian tribes there has been very little. They are industrious in their way, and when properly managed make good workmen. They are exceedingly independent in their thoughts and actions, and scorn charity and interference in their private affairs. Adult Indians learn the English language with great difficulty, and the vast majority of mature Indians still speak very little English, but the younger generation most generally know enough to be understood, although often disinclined to speak the language out of a feeling of shamefulness as regards correct pronunciation. The Navaho language, unfortunately, is exceeding complicated and few of the whites who come in contact with them can speak it.

Housing and Home-Life

Mr. Cosmos Mindeleff, of the Bureau of Ethnology, contributed an elaborate and admirable account on Navaho houses to the *Seventeenth Annual Report of the Bureau,* published in 1898. Since this account was published, there have been no changes or material alterations in the mode of housing, although the number of stone and frame houses has slightly increased; but the tendency in this direction is scarcely noticeable. The Navaho house is called a *hogán* and is a peculiar structure unlike any other met with in Indian habitations. According to Mr. Mindeleff, the Navaho recognize two distinct classes of *hogáns,* the *kequai* or winter place, and the *kejin,* or summer place, or in other words, winter huts and summer shelters. He observes further,

> ''Notwithstanding the primitive appearance of the winter huts, resembling mere mounds of earth hollowed out, they are warm and comfortable, and, rude as they seem, their construction is a matter of rule, almost of ritual, while the dedicatory ceremonies which usually precede regular occupancy are elaborate and carefully performed.''[10]

Mindeleff gives an elaborate detailed account of the methods of construction which may be summarized in the statement that the winter *hogán* is usually an octagonal log structure, gradually sloping toward the roof where there is a large circular opening for the exit of smoke. The interior is usually quite barren and rarely is any attempt made at ornamentation. There may be a few nails for harness or clothing, possibly a box or two, while the floor is partly covered with sheepskins or blankets. In the center of the *hogán* are the fireplace and a few simple cooking utensils. In summer the *hogán* consists of a rude shelter of branches of cedar or juniper as the case may be, for their sleeping quarters are in the open. The difference between winter and summer quarters is of considerable importance in census taking, for the winter quarters are usually deserted in the summer, when the Navaho follows his nomadic instincts and the necessities of his flock. But I am informed on the best authority that he rarely wanders far from his winter quarters. The Navaho seems to have an aversion against living in clusters or villages, and he often lives several miles away from his nearest neighbor, and by preference. When several *hogáns* are close together, they are of the same clan or family, but never of alien persons. Rude as the shelter may be, it is his home, and inviolate. The *hogán* has no door, but the best of sheepskin or a blanket is hung in front. It contains nothing worth taking away in any event, for most of the Navaho are still very poor. They live from hand to mouth, but primitive as their existence is, they maintain a relatively high standard of home life and a profound respect for the decencies of life.

---

[10] Mindeleff, Cosmos, Navaho Houses, *Seventeenth Annual Report, Bureau of American Ethnology,* Washington, 1901.

HOUSING IMPROVEMENTS

Attempts have been made to induce the Navaho to build modern houses in accordance with the white man's standard. Some such houses have been built. One of the best stone structures of this kind is owned by Mr. Chee Dodge, the acknowledged leader of the Navaho, a mixed-blood of unusual experience and ability. On general principles, however, I believe that attempts to induce the Navaho to build houses after our manner would be a mistake. I rather feel that the *hogán* is well adapted to his needs and in conformity to his habits of thought. But certain improvements might be introduced that would have far-reaching effect on the health of the Navaho. I am convinced that much of the tuberculosis and respiratory diseases common among them are the result of sleeping on the ground, and, as a rule, without adequate covering. A sheepskin or two, or a blanket is not sufficient for the purpose. I feel that if the Navaho could be induced to build an elevated platform around the interior of the *hogán,* two or three feet wide, it would serve the purpose and he could sleep dry and warm. At the same time, the sanitation of the *hogán* would be improved. This does not imply that I would not encourage the building of stone houses after our manner, but for this the present means of the Navaho are rarely sufficient.

INDUSTRIAL CAPACITIES AND PROGRESS

I would like to have enlarged upon the industrial capacities of the Navaho as sheep-herder, probably the outstanding example of what can be done with industry and intelligence under adverse conditions. Given a better grade of stock, which must be introduced from the outside, he would soon increase his wool yield and better his condition.

I regret that I cannot give accurate statistics of the number of sheep owned or the amount of wool produced. I secured this information only for limited areas during my recent visit to the Navaho country. As a typical illustration. I will give certain statistics for the Northern Navaho jurisdiction which is in New Mexico near the border of Utah. The Northern Navaho jurisdiction dips all sheep and goat herds every fall. The sheep and goats invariably run in the same herd, the latter about 20 to 25 per cent. of the total number. Some herds run more than 25 per cent. goats and some are composed almost entirely, and some entirely of sheep. The Indians pay for the actual cost of the materials used in the operation. On this occasion, there is a chance to get an accurate count of the sheep and goats of the jurisdiction, no attempt being made to differentiate between sheep and goats. The Northern Navaho dipped a total of 168,000 animals in the fall of 1923. In 1927 the total had increased to 218,000.

In 1923, the total number of wether lambs sold was 15,000; in 1927, the total number sold was 30,000. In the fall of 1923 the average weight of the wether lambs sold was forty pounds; in 1927 the average weight was fifty-seven pounds. In the spring of 1924 the total wool clip of the jurisdiction slightly exceeded 300,000 pounds. In the spring of 1928 the total clip of the jurisdiction was slightly over 650,000 pounds. Thus while in 1924 the average clip was two and a half to three pounds per sheep, by 1927 it had increased to five pounds, and in 1928 to six pounds. Here then is unmistakable evidence of the results of an intensive cultivation productive of direct financial returns, without increasing materially the number of sheep or animals, or the range or water requirements for the purpose. All this is due to the painstaking efforts of the local superintendent, who has the best interests of the Indian at heart and who directs him, as he requires to be directed, into channels of higher efficiency and greater usefulness. As one illustration, I may mention that in 1923 the Northern Navaho did not know there was such an article as mohair, but in 1927 they had sold 53,000 pounds of mohair at forty cents per pound. These increases are due to improved sires, improved range conditions, and control of scabies, but primarily the result of the efficient local administration of the affairs of the Indians of the jurisdiction referred to.

As a further illustration of the economic aspect of the Indian population problem, I give the following figures for the Southern Navaho jurisdiction. The amount of wool produced in this jurisdiction of 1927 was 1,433,872 pounds, valued at $458,739. The amount of livestock was valued at $342,000. All of this is for a population estimated at about 12,000, but probably somewhat more. The value of Navaho blankets in this jurisdiction was placed at $160,000. Navaho blanket weaving is of outstanding importance as an industrial pursuit, followed mostly by Indian women. The blankets are of superior quality, bring high prices, and are sold all over the country through the trading-stores and their connections.

As a minor industry of no small value in the aggregate, reference may be made to the gathering of piñon nuts which grow in enormous quantities throughout the Navaho country. In the Southern Navaho jurisdiction, in 1927, over two million pounds of piñon nuts were gathered at an estimated value of $103,000. Aside from the foregoing, Indians employed in connection with administrative functions of the Government earned about $112,000, while for outside work, chiefly trucking, they were estimated to have earned not less than $240,000. In the aggregate, the superintendent of the Southern jurisdiction estimated that the 12,000 Indians, of whom possibly 3,000 were adults, earned not less than $1,000,000 from their labors during the year 1927. This must be considered a creditable showing, of which the Government has reason to feel proud, for much, if not most, of it is the result of intelligent supervision and direction of effort, of which otherwise much would go to waste.

Agricultural Problem

The population problem of the Navaho may then be summarized in the statement that a fairly satisfactory existence is derived from a largely ungrateful and often forbidding soil, and while progress is being made, more is possible.

if more determined efforts were made to improve range conditions, water supplies, and breed of stock which is often inferior. The Navaho has shown and is showing adaptability for meeting with our suggestions, but the suggestions must come from the outside, as well as the necessary aid. He is increasing in numbers, but his land is limited and before many years there may be the serious risk of overpopulation. But much can be done with the desert range under Government control. The whole Navaho country, in fact, should be converted into a Government experiment station, both for agricultural possibilities and for race survival. It is admirably adapted to the needs of the Navaho and it is to be hoped that no changes will ever be introduced in violation of solemn treaty obligations.

HEALTH PROBLEM

The inaccessibility of many sections of the Navaho country to the more centrally located agencies where medical and hospital facilities are available accentuates the health problem. No really comprehensive study of the health situation has ever been made. Nor is this possible until the collection of vital statistics has been materially improved. Determined efforts in this direction have been in order for some time past and the outlook is encouraging. Granting a population increase such as has been indicated, there must of course be a material excess of births over deaths. No definite data on this subject are available at the present time; nor is a trustworthy analysis of causes of death feasible. From such personal investigations as I have made in extended interviews with physicians in charge at the different jurisdictions, I feel that the two major health problems are tuberculosis and trachoma, but the relative importance of these two problems is less than generally assumed. As regards tuberculosis, I have indicated that this, in my judgment, is largely the result of poor housing conditions and malnutrition, particularly the want of milk in early childhood and the use of unbalanced diets, possibly seriously deficient in vitamins. It is difficult to understand the frequency of tuberculosis as a cause of death in view of the healthy and vigorous outdoor life and almost constant exposure to sunshine. But the fact is easily overlooked that the winter months in the Navaho country are apt to be very trying and often the cause of serious respiratory affections. The occurrence of the latter is increased by poor housing accommodations, insufficient covering, and insufficient clothing.

INFLUENZA AND TRACHOMA

During the influenza epidemic of 1918–19, a large number of Navaho died, partly as the result of neglect. The Navaho, unfortunately, has a fatalistic attitude toward disease and is often not amenable to medical suggestions or the right kind of treatment. All this will require time for improvement, but progress is being made. Better hospitals are being established and better medical attention is being provided. In addition, a fairly adequate nursing service is being made available. In this respect the associated efforts of the Eastern Association on Indian Affairs have been most useful.

The trachoma situation is unquestionably serious, but it has been very much exaggerated by erroneous estimates based on misleading statistics. I am given to understand that the number of treatments is frequently assumed to represent the number of cases. Nothing, of course, could be more misleading. I have traveled extensively over the Navaho country and it is not common to meet with a blind person, although persons wearing glasses are met with in fair numbers. The establishment of a trachoma school at Fort Defiance should prove of great value in the future by concentrating trachoma cases in early childhood under adequate and qualified medical supervision. The Navaho in this respect is gaining in intelligence and appreciates the treatment that is given. It is a perplexing problem which, however, is in a fair way of being solved.

TUBERCULOSIS

The establishment of a sanatorium for the treatment of early cases of tuberculosis at Fort Defiance is also a very hopeful indication. This institution will make Fort Defiance a much more important center of medical attention and draw to it, no doubt, from all over the Navaho country persons in need of isolation and control. In other jurisdictions, much remains to be done to provide adequate surgical attention, especially in gynecological and obstetrical cases. It has long since been my conviction that one of the most urgent needs was a well-equipped ambulance service in view of the generally poor condition of the roads.

In the census of 1890 there is a brief reference to the health of the Navaho which is here incorporated:—

> "The tribe generally enjoys good health and has increased largely in numbers since the return from Fort Stanton. . . . The Indian blood is here kept pure. These Navajos are unusually free from syphilis."[11]

As regards medicinemen, it is stated:—

> "These men are few in number and are losing their power and influence. They, as religious priests, have carefully fostered all the tribal traditions, deal in all that is mysterious, and seek through mysterious influences, superstitions, and bigotry to rule the people. The tribe has but little respect for them now. Their influence is nearly gone. Their skill as physicians is not great. They have a knowledge of herbs, and a rude kind of surgery which experience has taught them, but all the men and women carry their medicine bags, and know the value of many of the herbs and roots. It is claimed that they can cure syphilis and rheumatism by means of herb teas and the sweat house."[12]

The influence of the medicineman continues to linger, but I agree with the viewpoint that it is much better to deal with this practice in a spirit of broad tolerance rather than to demand the suppression of it entirely. It must not be overlooked that in many remote sections of the Navaho country, considering its immense territory, prompt medical aid is as yet almost out of reach.

THE MONGOLIAN BLUE SPOT

There is one important question bearing upon the Navaho which may be included in this discussion. By general appearance, the Navaho indicate Mongolian traits. I agree with those who hold that our Indian tribes unquestionably in bygone ages had some contact with Orientals who may have migrated to the American continent by way of Bering Strait. Now the physical evidence of Mongolian origin is claimed to be the so-called "Mongolian blue spot," which appears on the sacrum of new-born children and survives for several months, when it gradually disappears. The blue-spot theory has quite a literature of its own which, unfortunately, is widely scattered. It is maintained that this spot appears only on persons of Mongolian origin, although that question is debatable. I have myself observed the blue spot on probably not fewer than fifty Indian babies in the Navaho country, as well as in parts of Mexico and South America. Doctor Wigglesworth, who was one of the earliest physicians in charge of Fort Defiance, was one of the first to call attention to the Mongolian blue spot on Navaho babies in a communication to the *Journal of the American Medical Association*. Unfortunately Doctor Wigglesworth did not enlarge upon his observations and the subject has never received the attention to which it is entitled by its scientific importance. The article by Doctor Wigglesworth appeared in the *Journal* of November 9, 1912, but was subsequently dealt with in a letter to the *Journal* under date of November 30, 1912, from which I quote the following:—

---

[11] *Ibid.*, p. 159.

[12] *Ibid.*, p. 159.

> "Recently Wigglesworth has noted that the Navajo Indian babe invariably has a 'blue spot' over the sacrum. A blue spot in this location was first mentioned by Bealz, who found it in Chinese, Japanese, Malays and Koreans. Fink saw such patches in the Burmese, and Castor in a discussion of Fink's work, corroborates his statements and concludes that the spots are atavistic."

The spot does not invariably appear, but possibly it occurs in half the cases, certainly not less, with which I am familiar. I cannot enlarge upon this question, but it introduces a suggestion for further study. I may add, however, that according to Eschricht the blue spot has also been discovered among the Eskimo of West Greenland. Bealz of Tokio who was the first in 1883 to comment upon the subject is emphatically of the opinion that it does not occur among persons of the white race, but that it occurs among all races other than the whites, which seems to be indisputable. Thus, Brennemann in 1907 in the *Archives of Pediatrics* produces evidence of the occurrence of the Mongolian blue spot among negro children in the United States. But all the evidence on the subject is fragmentary, and in the light of my own experience I can only say that extreme care is necessary to make sure of the precise identification of the spot to avoid erroneous conclusions.

TREATY OBLIGATIONS

The foregoing account would be incomplete without a brief reference to the treaties entered into with the Navaho since they came under American jurisdiction. There are two fundamental treaties, the first of which is dated September 9, 1849, entered into with the Navaho by Lieutenant Colonel J. M. Washington and Mr. James S. Calhoun, Indian Agent. This treaty contains no important provisions other than that the Navaho agree to live at peace and to deliver certain murderers to the United States Government, while agreeing to an adjustment of the boundaries of their country, which, however, are not well defined. The United States agreed to so legislate and act as to secure the permanent prosperity and happiness of the Indians. I believe it may be said with entire justice to the Government that this obligation has, on the whole, been faithfully carried out.

The second and more important treaty was entered into in 1868 after the Navaho had been subdued and confined as prisoners at Bosque Redondo. This treaty was signed by Lieutenant General W. T. Sherman and Colonel Samuel F. Tappan. It is an elaborate treaty of thirteen articles containing many minor obligations on the part of the Government, all of which appear to have been carried out, except Article 6, that,

> "In order to insure the civilization of the Indians entering into this treaty, the necessity of education is admitted, especially of such of them as may be settled on said agricultural parts of this reservation, and they therefore pledge themselves to compel their children, male and female, between the ages of six and sixteen years, to attend school; and it is hereby made the duty of the agent for said Indians to see that this stipulation is strictly complied with; and the United States agrees that, for every thirty children between said ages who can be induced or compelled to attend school, a house shall be provided, and a teacher competent to teach the elementary branches of an English education, shall be furnished, who will reside among said Indians, and faithfully discharge his or her duties as a teacher."

This treaty provision has never been fully carried into effect and thousands of Indian children have been without the education which the Government agreed to furnish. Even at the present time, school facilities for many Navaho children are still unavailable, due partly, of course, to the nomadic character of the population and partly to the remoteness of many sections of the country; but it goes without saying that much more could have been done to provide educational facilities had the required appropriations by Congress been made in a liberal spirit.

Conversely, the Government has done much more for the Navaho Indians than it ever agreed to. There is nothing in the treaty which stipulates that the Government should furnish medical attendance or hospital facilities. A considerable amount has been done in this direction and appropriations are constantly increasing. For next to the educational question, the health question is paramount. In the light of many years of study of the Navaho problem, I am convinced that the present Governmental policy toward these people is one of enlightened humanitarianism and a practical sense of helpfulness in social and economic directions.

The Prudential Insurance Company,
Newark, New Jersey.

L'EVANGELIZZAZIONE E I COSTUMI DEGLI INDI LUISEÑOS SECONDO LA NARRAZIONE DI UN CHIERICO INDIGENO

Di Carlo Tagliavini

FRA i ricchi materiali di manoscritti contenuti nel fondo Mezzofanti della Biblioteca dell'Archiginnasio di Bologna, si trova anche un prezioso zibaldone di notizie linguistiche ed etnografiche riguardante gli Indi Luiseños. Esso porta il titolo generico di *Lingua Californese* e non è che in piccolissima parte autografo del celebre Cardinale. Tale manoscritto fu già segnalato da Emilio Teza,[1] il quale però non riusci ad identificare nè il preciso dialetto, nè l'Autore dell'opera e non potè quindi apprezzarne il valore; secondo lui il manoscritto sarebbe da attribuirsi a un ipotetico Padre Jak; un missionario dunque, ma un missionario che in realtà non è mai esistito.

Nel 1926 l'autore di queste righe pubblicò la parte più importante del manoscritto, e cioè quella relativa alla *Grammatica Luiseño*[2], e nell'introduzione a quel volumetto mise in chiaro l'importanza del manoscritto stesso e ne stabilì la paternità. Si vide in tal modo che quello zibaldone di notizie preziosissime usciva dalla penna di un giovane indigeno. Riassumerò qui per sommi capi le argomentazioni che mi portarono a tale risultato: Il Teza era caduto in un primo errore di lettura che non gli aveva permesso una migliore identificazione. Il nome dell'autore si trova di fronte alla breve grammatica Luiseño scritta in latino, e conseguentemente nelle due copie fattene dal Mezzofanti; ora in esse non si deve già leggere P. Jak, ma P. Tak (l'autore scrive sempre il *T* maiuscolo in modo da poter essere confuso facilmente con un *J*). Il *P* poi non è abbreviazione di *Pater,* ma di *Paulus.* Si ottiene in tal modo il nome di Paolo Tak. Noi sappiamo che un Paolo Tac, nativo della Missione di San Luis Rey (Gennaio, 1822) entrò nel Collegio Urbano di Propaganda Fide di Roma il 23 Settembre 1834, insieme con un suo compagno, Agapito Amamix, nativo della medesima Missione (6 Agosto 1820). Era allora Rettore del Collegio Urbano Carlo Augusto Conte di Reisach, che fu poi cardinale[3] e proprio sotto il suo rettorato incontriamo i primi chierici inviati dalle Missioni della lontana America.

Il Mezzofanti, com'è noto, si trovava a Roma fin dal 1831[4] e frequentava quotidianamente la Propaganda, che era per lui la più eccellente palestra linguistica; la venuta dei giovani dalla California fu da lui salutata con viva gioia; si mise subito a studiarne la lingua, di cui in poco tempo si rese perfettamente padrone, sì da poter insegnare a quei giovani il modo di render il loro nativo idioma "secondo le regole della grammatica," come diceva il Cardinale Wisemann:[5] di questo ci fanno fede il Padre Bresciani[6] e il Russel.[7] Dei due giovani Agapito Amamix non potè resistere al cambiamento di clima e di vita e presto morì di deperimento organico;[8] Paolo Tac invece restò in Propaganda per oltre sei anni, studiando indefessamente. Egli doveva essere un giovane di straordinaria intelligenza, secondo quanto appare dalla rapidità degli studi e dal fatto che il 2 Febbraio 1839, a soli diciassette anni, aveva prestato giuramento di ritornare in Missione come apostolo di Cristo, giuramento che per solito si permette solo ai migliori allievi e in età ben più matura. Ma il clima ebbe una fatale influenza sulla sua salute e il 13 Dicembre, santamente morì.[9]

---

[1] Teza, E., *Saggi inediti di Lingue Americane,* Pisa, 1868, p. 22; (anche in *Annali delle Università Toscane,* X, p. 121).

[2] Tagliavini, C., *La Lingua degli Indi Luiseños* (*Alta California*) *secondo gli appunti grammaticali inediti di un chierico indigeno,* Bologna, 1926 (Bibl. de l'Archiginnasio, S. II, V. XXXI).

[3] Fu rettore dal 1830 al 1836, cf. Castellucci, A., *I rettori del Collegio Urbano* in *''Alma Mater,''* Strenna del Coll. Urbano de Propaganda Fide, Pasqua 1926, p. 124 segg.

[4] Cf. Russel, *Vita del Cardinale Mezzofanti, Bologna,* 1859, p. 154.

Della parte linguistica contenuta nel manoscritto del Tac e pubblicata nel mio citato volume, mi occupai brevemente in una memoria letta al precedente Congresso degli Americanisti di Roma, *Osservazioni sul dialetto Shoshone di San Luis Rey* (*Alta California*).[10] Porto ora alla conoscenza degli Americanisti un'altra parte del manoscritto del Tac e precisamente quella che tratta dell'evangelizzazione e dei costumi dei Luiseños. La prima sezione riguarda l'arrivo dei Missionarii e l'organizzazione della missione di San Luis Rey, che fu la più fiorente della California.

Per quanto il Tac non sia stato testimonio oculare, la sua narrazione è importante e sono utili i confronti coll'opera del Robinson, più avanti citata, e colle storie delle missioni di California, tantopiù che proprio la Missione di San Luis Rey è l'unica che abbia perduto il suo *Libro de Bautismos, Casamientos* ecc. (conservato per le altre missioni di California fino ad oggi negli Archivi di Santa Barbara).[11]

La seconda parte del manoscritto tratta brevemente dei costumi degli Indi cristianizzati e si trattiene specialmente sulle varie specie di balli. Confrontando il racconto del Tac colle pubblicazioni dello Sparkman e della Goddard-Dubois, più innanzi citate, si possono aggiungere alcuni dati alle notizie finora note.

---

[5] Presso Russel, *op. cit.*, p. 218.

[6] *Civiltà Cattolica,* VII (1851), p. 569.

[7] Russel, *op. cit.*, p. 219 segg.

[8] Dal Registro di Propaganda Fide, cf. Tagliavini, *La Lingua*, ecc. p. 10, n. 4.

[9] Dal Registro del Collegio Urbano: "Tac Paulus (Puiri) Californiensis (Mexicanus) ex Missione St. Ludovici Regis, Ritus Latini, ortus 1822 Jan. Ingressus 1834, 23 Sept.—Studuit Gramm. a 1834 ad 38, Rhetoricae a 1838 usque ad an. 1839; Humanitat et rethor. 1839–40. Anno 1840, mense Dec., graviter variolis aegrotavit. A. 1841 Phil. studuit. Practiosa justorum morte obiit die 13 Dec. 1841, mirabili animi tranquillitate ac hilaritate. Praestit iuramentum 2 Febr. 1839."

[10] Vedila stampata negli *Atti del XXII Congresso Internazionale degli Americanisti,* Vol. II, pagg. 539 segg. Roma, 1926.

[11] Cf. Englehardt, Z., *The Missions and the Missionaries of California,* San Francisco, 1908, vol. II, p. XXIV.

Conversion de los San Luiseños de la Alta California[12]

Despues que quitaron las Missiones a los Padres Jesuitas de la California,[13] vinieron los Padres de la Religion de S. Francisco, y de San Domingo, los primeros para la Alta California, los segundos para la Baja California. California es una, dividida en dos partes es decir Baja California, y Alta California assi llamada por el Señor Don Cortez, que fue el primero que la hallò.[14]

La Baja California empieza desde la Mission de S. Lucas, hasta la Mission de S. Diego, desde la Mission de S. Diego la Alta California, hasta mas arriba de Monte Rey.[15]

Se sabe de la historia que los primeros que se fueron para la California de los Missioneros, fueron les P. Jesuitas, y el primer entre ellos el Padre Salvaterra Juan,[16] renombrado en la historia de la California per sus obras de Piedad.

Llegaron los Padres de la Religion de S. Domingo en la Baja California, y los Padres de la Religion de S. Francisco en la Alta.[17] Los Padres Franciscanos de los que yo aqui hablo en Mexico se llaman Padres Fernandinos, porque el Colegio u convento en que se hallan se llama el Convento de S. Fernando Rey de España. Llegaron estos Padres en la Alta California y uno de ellos llegò en nuestro Pays[18] que lo llamamos *quechla,* y nosostros por esso nos llamamos *quechnajuichom* es decir habitadores de *Quechla,*[19] quando estabamos en paz: porque siempre huvo

---

[12] Per la storia generale della California, oltre gli scritti antichi ma pur sempre preziosi del padre Miguel Venegas, *Noticia de la California y de su conquista temporal y espiritual hasta el tempo presente,* Madrid, 1757; dello Herrera, *Indias Occidentales,* Madrid, 1780; del Clavigero, *Historia della California,* Venezia, 1789, vedi; Greenhovn, *The History of Oregon and California,* Boston, 1845; Bancroft, H., and Hittle, *History of California,* 1542–1890, San Francisco, 1884–1890 (7 volumi); ma specialmente la fondamentale opera di Hittle, Theodore H., *History of California,* San Francisco, 1885–1897.

[13] I Gesuiti evangelizzarono la Bassa California; la loro prima Missione fu quella di Loreto, fondata il 25 Ottobre 1697 e poi seguirono quelle di San Francisco Saverio (1699), San Giovanni Battista (1705), Santa Rosalia (1705), San José de Comondu (1706), Nuestra Señora del Pilar de La Paz (1720), Nuestra Señora del Guadalupe (1720), La Purisima Concepcion (1717), ecc. I Gesuiti dovettero uscire di California in seguito al decreto del 2 Aprile 1767 per cui Carlo III, re di Spagna, ordinava la cacciata dei Gesuiti da tutti i suoi dominii. L'ordine, giunto al Messico nel Luglio, fu subito messo in effetto e i poveri padri furono imprigionati e condotti a Vera Cruz per esser rimpatriati. In California portò i voleri del Re D. Gaspar de Portolá, che giunse nella penisola nell Ottobre. Il tre Febbraio del seguente anno 1768 egli aveva già raccolto i missionarii della California (che in tutto ascendevano a 15) e dopo un ultima cerimonia solenne la Compagnia di Gesù abbandonò quella regione. Cf. Shea, *Gesch. d. kathol, Missionen unter den Indianerstämme der Verein. Staaten* (1529–1860) Würzburg, 1864; Thwaites, Reuben Gold (Editor), *Jesuit Relations and Allied Documents,* Cleveland, 1896 (73 vol.); ma specialmente Clinch, Bryan J., *California and its Missions, their History to the Treaty of Guadalupe Hidalgo,* 2 vol., San Francisco, 1904; v. anche Hittel, *History of California,* cit. Vol. I, Libro II, pp. 163–289.

[14] I primi accenni alla California si trovano in un rapporto del Cortes del 1524 (Carta IV, 7); il viaggio del Cortes è del 1535. Il primo viaggiatore nell' Alta California fu Juan Rodriguez Cabrillo nel 1542.

[15] Il limite fra Bassa e Alta California e cioè fra le missioni dei Domenicani nella Bassa California e quelle dei Francescani nell' Alta, furono fissati all'*Arroyo de San Juan Bautista* circa 15 leghe al Sud di San Diego, con la scritta "Division de las Misiones de Nuestro Padre Santo Domingo y de Nuestro Padre San Francisco, Año de 1773," Cf. Hittel, *History of California,* I, p. 365.

[16] Il Venegas (*Noticia de la California,* ecc. P. III, 1 p. 5) dice giustamente che il Padre Salvatierra era la persona scelta da Dio per evangelizzare la California. Accanto a lui si debbono però anche ricordare i Padri Kino e Ugarte.

[17] Non interessandoci per questo studio la parte della Bassa California indichiamo solo alcune opere per le missioni francescane nell' Alta California: cf. Carter, C. F., *Missions of Nueva California,* San Francisco, 1900, e Engelhart, Z., *The Franciscans in California,* Harbor Springs, Michigan, 1899, libri fondamentali per il nostro argomento. Gran parte della

---

prima evangelizzazione dell' alta California si deve all' opera attivissima del Padre Junipero Serra (nato, 1713; morto, 1784). La storia della sua vita è storia delle missioni in California. Grande importanza ha quindi lo scritto del Padre PALOU, *Relacion Historica de la vida y Apostolicas tareas del Venerabile Padre Fray Junipero Serra y de las Missiones que fundò en la California septentrional,* Messico, 1787, riassunta in italiano alle pp. 225–310 del vol. 7, Parte IV della nota opera *Storia Universale delle Missioni Francescane* del p. MARCELLINO DA CIVEZZA, Firenze, 1894. Maggior importanza ha l' altro scritto del medesimo Padre PALOU; *Noticias de la Nueva California,* Mexico, 1857 (Doc. Hist. Mex. ser. IV tomi VI–VIII ma specialmente nella bella edizione in quattro volumi, della Historical Society di San Francisco, 1874).

[18] Il nostro Tak corre molto veloce perchè passano ben 29 anni prima della fondazione di San Luis Rey, dopo la venuta dei Francescani in California. La prima missione fu quella di San Diego (1769) poi seguirono: Monterey (1770), San Antonio, San Gabriel e San Luis Obispo (1771–72), San Juan Capistrano (1775), San Francisco (1776), Santa Clara (1777), San José de Guadalupe (1777), Purisima Concepcion de Maria e San Pedro y Pablo nel Colorado (1780), Los Angeles (1782), San Buenaventura (1782), Santa Barbara (1782), Purisima Concepcion (1786), Santa Cruz (1791), Maria Santisima de la Soledad (1791). Dal 1796 al 1798 si fondarono cinque nuove missioni, coll'incoraggiamento e l'aiuto del Marchese di Branciforte, Vicerè del Messico, e cioè, San José (1795), fra San Francisco e Santa Clara, San Juan Bautista (1797), fra Santa Clara e Monterey; San Miguel (1797), fra San Antonio e San Luis Obispo; San Fernando (1797), fra san Bonaventura e San Gabriele e infine San Luis Rey (1798), situata fra San Juan Capistrano e San Diego. Quantunque San Luis Rey sia stata la più fiorente e numerosa missione della Alta California, fu una delle ultime, giacchè dopo la sua fondazione sorsero tre sole nuove missioni e cioè Santa Inez Virgen y Martir (1804), San Rafael (1817) e San Francisco Solano (1823). Dopo il 1832, a causa delle condizioni politiche del Messico, avvenne la secolarizzazione delle Missioni.

Quanto alla missione di San Luis Rey in particolare sappiamo che era intenzione dei Francescani fondare una missione fra San Diego e San Juan Capistrano ancor nel Novembre, 1797 (*California Archives,* P. R. IV, 201 presso HITTEL, *History of California,* vol. I, p. 485); nell'Agosto 1795 era stata fatta una ricognizione dal Padre Juan Mariner insieme ai militari Juan Pablo Grijalva e Juan Maria Olivera: questi avevano indicata come opportuna una località detta *Palé* (quasi certamente = *Pala*) assai più vicino a San Diego che a San Juan Capistrano. Il Padre Lausen l'aveva trovata eccellente (*California Archives,* M. II, pp. 238–243; 268 presso HITTEL, *History of California,* vol. I, p. 485). Ulteriori riflessioni fecer pensare alla scelta di un luogo più adatto intermedio fra le due missioni predette. Così il Padre Lausen organizzò nell'Ottobre, 1897, una ricognizione alla quale prese parte egli stesso, il Padre Juan Norberto de Santiago, Pedro Lisalde, sette soldati e cinque indiani; questa spedizione traversò il territorio da San Juan Capistrano fino a San Diego (*Cal. Arch.,* P. S. P. XV, p. 263–564 presso HITTEL, *History of California,* I, p. 486) e scelse come luogo adatto per la futura missione il sito denominato dagli Indigeni *Tacayme* e dagli Spagnuoli Cañada de San Juan Capistrano. Però la stagione era troppo avanzata per poter pensare alla fondazione della Missione, e si rimandò all'anno seguente. Circa alla metà del 1798 il Padre Lausen partì prendendo con sè il Padre Santiago della missione di San Juan Capistrano, il Padre Antonio Peyri destinato per la nuova missione, il Comandante Antonio Grajera di San Diego e pochi soldati, e così il 13 Giugno 1798 fu fondata alla presenza d'un gran numero d'Indigeni accorsi, la Missione di San Luis Rey de Francia (*Cal. Arch.,* P. R. VII, 717 presso HITTEL, *History of California,* I, 486).

[19] Secondo Kroeber, A. L., *The Shoshonean Dialects of California, cit.,* p. 145: "They seem sometimes to call themselves *Ghecham* or *Khecham, Ghech* being the name of San Luys

guerra, siempre pleyto dia y noche con los que en otra lengua hablaban. Parace (*sic*) que nuestro (*sic*) enemigos fueron los que aora se llaman Dieguinos, por los Españoles, y *quichamcauichom* por nosotros que quiere decir “los de Sud.”[20]

Antes de ir á guerra se pintaban para ser terribles a los enemigos, y se cojia al enemigo o quando estaba dormiendo, o quando los hombres salian de casa, quedando solo las Mugeres, y mataban Mugeres, Viejos, y Niños, echo esto se quedaban los aduares uyendose ellos a sus casas; las armas eran Arcos flechas y ciertas Espadas de leño, lanzas de leño por nuestra lengua llamados, *uacatom.* Los Arcos eran echos de palo fuerte que facilmente no podia romperse, largo que llegaba hasta los hombres del hombre, gruesos en medio un dedo y medio, anchos tres dedos, las flechas eran de calizo gruesos al tamaño de un dedo, largos quatro palmas, en la punta un palito encajado largo una palma y media, los ojos de la flecha eran tres de pluma de qualquier sea paxaro. La espada era larga quatro palmas ancha tres dedos, y la tercera palma empezaba á arquear. La lanza era larga ocho palmas grueso quatro dedos y la punta tenia aguda, para llevar las flechas tenian atràs de las espaldas un cuero de coyote u otro animal, las espadas se echaban al enemigo, o teniendolas se rajaba la cabeza del enemigo, las espadas quando se tiraban corrian mas que quinientos pasos de hombre Gigante.[21]

Con estas armas iban a guerra, que tambien aora las tenemos; era muy miserable la vida de entonces, porque siempre habia pleytos. El Dios a que entonces se adoraba era el Sol y el Fuego,[22] Asi se vivia entre los bosques, hasta que Dios

---

Rey Mission”; Sparkman, P. S., *The Culture of Luiseño*, p. 191, *Keish*, San Luis Rey; Gifford, E. W., Clans and Moieties in Southern California, *University of California Publications in American Archaeology and Ethnology*, vol. 14, p. 207, *Kaitcham;* Loew, citato da Kroeber, *ibidem*, dà *Gaichim* come nome di questi Indi; Gatschet, A., *Report, United States Geographical Surveys West of the One Hundredth Meridian, in charge of G. M. Wheeler*, Vol. II, Appendix, Linguistics (pp. 399–485), p. 413 li chiama *Kechi*, e così il Buschmann, Die Spuren der Aztekischen Sprache im nördliche Mexico, *Abh. d. K. Ak. Wiss.*, vol. II. Berlin, 1854; anche Shea, *Geschichte die katholische Missionen unter den Indianerstamme der Vereinigte Staaten* (1529–1860), Würzburg, 1855, p. 108 dà la forma *Kechis.* Cf. anche Hodge, *Handbook of American Indians North of Mexico*, Washington, 1907–10, Vol. I, p. 778. Dopo la fondazione della missione venner sempre chiamati *Luiseños* e meno frequentemente *St. Luisians* dagli Anglo-americani. Solo nelle risposte al Questionario del Vicerè del 1811 (v. sopra) si trova il nome di *Lamancus* che è inesplicabile, cf. Kroeber, *A Mission Record of the California Indians, cit.*, p. 6.

[20] *Dieguinos* dal nome della Missione di San Diego, la più meridionale dell'Alta California. Sono popolazioni appartenenti alla famiglia Yuma (gruppo linguistico Hokan di Dixon e Kroeber). Il nome che i Luiseños danno ai Dieguinos e cioè *Quichamcauichom* secondo il nostro ms., *Kichamguchum* secondo Kroeber, *Shoshonean Dialects of California*, p. 149, significa realmente i meridionali da *Kicham* “Sud” cf. l'avverbio *quicham-cuna* en el Sud. La lingua dei Dieguinos è dai Luiseños chiamata *Kichamkwangakh* (Kroeber, *ibidem*) mentre la propria favella essi chiamano *cham-tela* e cioè “nostra lingua” (Kroeber, *ibidem*, p. 145) come gli Indigeni di San Juan Capistrano chiamano il proprio idioma *Ne-tela* che già Gatschet (*Wheeler Survey, cit.*) identificava giustamente con “my language.”

[21] Sulle armi e specialmente sugli archi e le frecce dei Luiseños cf. SPARKMAN, P. S., *The Culture of the Luiseños Indians, University of California Publications in American Archaeology and Ethnology*, vol. 8, no. 4, 1908, p. 205 segg.

[22] La religione dei Luiseños con alcune particolarità speciali, era come quelle di alcune tribù vicine (San Juan Capistrano) il culto di *Chungichnish* o *Chingichnich.* Il nostro Tak purtroppo non ci dà nessun ragguaglio sui culti pagani dei suoi connazionali. Sulla religione e le superstizioni di Chingichnisch è notissimo uno scritto del Padre Geronimo Boscana (mis-

Misericordioso nos sacò de estas miserias, por el P. Antonio Peyri[23] Catalan que llegò en nuestro Pays a la tarde con siete Soldados Espanoles (*sic*).

Llegando el Missionero[24] con poca gente en nuestro Pays, el Capitan nuestro viendoles de lejos, y tambien los otros se espantan, mas no uyen ni cojen armas

---

sionario francescano a San Juan Capistrano morto nel 1831) pubblicato nel 1846 in traduzione inglese, da Alfred Robinson in appendice al suo libro *Life in California,* col titolo di *Chinigchinich, A Historical Account of the Origin, Customs and Traditions of the Indians at the Missionary Establishment of San Juan Capistrano, Alta California, called The Acagchemen Nation.* Un riassunto di questa fondamentale opera si trova a pp. 746–769 della più volte citata *History of California,* Vol. I di Hittel. Ma per i Luiseño esiste una compiuta e diligente monografia della Signorina Constance Goddard Dubois, *The Religion of the Luiseño Indians of Southern California, University of California Publications in American Archaeology and Ethnology,* Vol. 8, 1908, pp. 69–186.

La religione di Chungichnich è molto più complessa di quanto sembra della descrizione del nostro Tak. Però egli non erra dicendo semplicemente che era una religione del sole. La Dubois infatti *op cit.*, p. 97, riconosce che, ''The Chungichnisch worship was a religion of fear'' e che, ''The people were afraid of the sun because he watches everything, and they made it a rule always to eat before the sun rose in the morning.''

[23] Il Padre Antonio Peyri impersonificò per 34 anni la Missione di San Luis Rey; era abile e zelante e seppe fare della sua missione la più fiorente di tutta la California. Fu uno dei missionarii che giurarono fedeltà alla Repubblica Messicana e per breve tempo, nel 1829, fu presidente delle Missioni (*California Archives,* S. P. XII, pp. 575–576; D. R. VII, 783, presso Hittel, *History of California,* I, 505). Si ritirò da San Luis nel 1832 all'età di soli 67 anni, non potendo vedere la dissoluzione e lo sfacelo in cui stava cadendo, per de mutate condizioni politiche la sua cara Missione. Alfred Robinson che aveva visitato San Luis Rey nel 1829 e il commerciante Alexander Forbes che lo vide nel 1832 ci dicono (rispettivamente in *Life of California,* 1846, pp. 2, e *A History of Upper and Lower California,* 1839, pp. 228–230) di aver conosciuto raramente un frate così intelligente, colto e piacevole. Cf. Hittel, *History of California,* II, p. 517 segg.

[24] Un altro foglietto, che nella vecchia impaginazione portava il No. 63–64 contiene una variante di questa descrizione dell'arrivo del Missionario: la riproduco in questa nota, apportando essa qualche dato che merita d'esser conosciuto: ''Conque el Missionero llega con poca gente; etonces el Capitan nuestro viendoles de lejos, y tambien los otros se espantan, mas no uyen ni cogen armas para matarles, mas sentados les estaban viendo, mas quando aquellos mas se acercaron; entonces el Capitan se levanta y les encuentra, el Fernandino le habla en Español, como en su lengua mas el Capitan no le entiende porque jamas havia visto hombres blancos. El Capitan le habla ni tampoco el Fernandino le podia entender, el Capitan quien sabe le havra dicho, [¿] que es lo que aqui buscais? mas por señales y en su lengua *hichsom ivà hal-uon puluchajam quionaai.* El P. Fernandino le diò regalos y assì se amigaron. El Capitan viendo a esta gente tan liberal, volviendose a su gente y aqui (como es facil) habrà hablado a favor de los blancos, y por esso los Españoles no fueron matados, porque aquel era el dia en que Dios sacarnos de la Gentilidad queria. Fué gran gracia esta, que no mataron a los Españoles, y casi deficil a creerse, porque jamas han querido, que otra gente con ellos habitase, que por esso hasta aquellos dias estaban guereando. El Fernandino se queda en nuestro Pays, se hace un aduar, para aqui vivir, y decir Misa, viviendo aqui y viendolas cosas como iban, teniendo por amigo el Capitan de nada tenia miedo. Despues de havernos bautizado, mando y les dijo hagamos una casa grande para nosotros. Cortad los arboles, llevad piedras para los cimientos, haced ladrillos texas y lo necessario, los Neofitos empiezan a trabajar, y entre pocos años con los Maestros que le ayudaron se cumpliò la obra. La casa fue echa se hizo tambien una Iglesia (b) con sus campanas y cimenterio, quartel para los Soldados, casa para los mayordomos. La casa es quadrada, tiene un gran patio, en medio un relox de pala y a quatro lados kuatro plantas de narango amergo.'' Segue poi una chiamata con la lettera *b* che si deve inserire dopo la parola *Iglesia* e che dice: ''con altares uno en medio, y los otros dos a los lados del mismo, en el altar mayor ay statuas de muchos santos, y en medo la de San Luis Rey de Francia, mas abajo la de Maria Virgen de palo,

para matarles, mas sentados los estaban viendo, mas quando aquellos se acercaron: entonces el Capitan se levanta (porque estaba sentado con los otros) y los encuentra, aquellos se paran, y el Missionero entonces empieza à hablar al Capitan diciendo quisà en su lengua “*hichsom iva haluon,* [?] *pulùchajam cham quiñai*” “[¿] Que es lo que aqui buscais [?] salid de nuestro pays,” mas aquellos no le entendian, y tambien ellos en español le respondian,[25] y el capitan empezò por señales, y el Fernandino entendiendole, le diò regalos, y en esta manera le hizo su amigo, El Capitan volviendose a su gente (como creo), habra allado bien los blancos y por esso los dejaron aquì dormir. No habia entonces casa de piedra, mas todos eran aduares (como se dice). Este fue aquel feliz dia en que vimos Gente Blanca; por nosostros llamada *Sosabitom.*[26] O Dios misericordioso [¿] porque nos dejaste por muchos Siglos, años, meses y dias en las tinieblas, despues que veniste al Mundo [?] Bendito seos desde este dia hasta los Siglos futuros.

El P. Fernandino se queda en nuestro Pays con su poca gente que llevaba se hace un aduar y aqui viviò por muchos dias, por la mañana decia su Misa, y despues discuria entre sì mismo como los bautizaria, en donde pondria su Casa, la Iglesia, y como havia con cinco mil almas (que eran todos los Indios)[27] como los sustentaria, y viendo como se podia hacer; teniendo por amigo al capitan de nada tenia miedo. Fue gran gracia esta,[28] que no mataron a los Españoles los Indios quando llegaron, y muy admirabile, porque nunca han querido, que otra Gente con ellos habitase, perloque hasta aquellos dias estaban guereando. Mas assi ha querido el que solo puede querer. No se si les Bautizo antes de hacer la Iglesia u despues de hacerla echo (*sic*), mas creo que les Bautizase antes de hacerla.[29] Ya

---

a mano derecha del altar mayor, ay el segundo altar y las estatuas, que son las que siguen, la estatua de San Ioaquim, de Santa Ana, de José, el altar posto a mano isquierda es de San Antonio de Padua.”

[25] Il Padre Peyri era giunto in California nel 1796, non aveva quindi avuto il tempo di imparar nessun idioma indigeno. Il Padre Jose Faura che fu per qualche tempo compagno al Peyri era arrivato qualche mese prima della spedizione. (Hittel, *History of California,* I, 487).

[26] *Sosabitom* non è il termine generale per i Bianchi; designa solo gli Spagnuoli. Gli Anglo-Americani sono ora detti *momna wechom* da *momat* Oceano cf. Kroeber, *Shoshonean Dialects,* 73.

[27] Le statistiche che possediamo ci danno questi dati. Nel 1805 circa 900 Neofiti, nel 1811, 1500; nel 1820, 2609; nel 1822, 2663, nel 1830, 2776 cioè circa il doppio di qualsiasi altra missione della Alta California.

[28] In un foglietto designato nell'antica numerazione col N. 75 è data una breve variante del passo che segue: “Mas Dios quiso hacernos Christianos, el Capitan enpieza a hacerse amigo del Fernandino y le deja que se quede en nuestro Pays, y como casa de piedra no habian, porque todas eran aduares, tambien el Fernandino dormiò con sus ciete soldados que llevaba con sigo. Assi estubo muchos dias; aqui decia Misa, hasta que se hizo una Casa que el, y los cinco mil podian abitar. . . . Sigue (sic). . . . Nuestro Pays antes que el Fernandino llegase era bosque, el mandò que se cortasen los arbores para hacer en esta manera una llanura, se cortaron los Arbores, mandò a traher piedras desde el mar (que no es lejos) para los cimientos, se hicieron ladrillos, mercha, vigas, texas, y lo que necesitaba. En pocos años acabaron la obra, la casa fué echa con su Iglesia, y otras dos chicas casas, la primera para los soldados, la segunda para los Mayordomos, officinas de Zapateria, Carpintaria, teler, Hereria, Javoneria y mas Almazenes, tores quartos. La Casa es quadrada, ay pilares adentro y tambien afuera mas solo antes las puertas del Padre Fernandino.”

[29] Certamente prima; secondo una notizia dei *California Archives,* P. R. VII, p. 717, riportata dallo Hittel, *History of California,* I, p. 487, il giorno della fondazione della Missione

era muy amigo del Capitan, y tambien querido por los Neofitos, algo le podian entender, quando el, como Padre de ellos, les mandò que llevasen piedra desde el Mar para los cimientos (que no es lejos) haciesen ladrillos, texas, cortasen vigas, carrizos y lo necessario. Lo hicieron, con los Maestros que les [que les] ayudaban, y entre pocos años acabaron de trabajar. Hicieron una Iglesia para todos los Neofitos, con tres altares; el altar mayor es todo casi dorado, dos capillas, dos Sacristias, dos coros, un jardin de flores para la Iglesia, una torre alta, con cinco campanas dos chicas[30] y tres grandes, el ciminterio para todos losque aqui mueren y en medio una cruz clavada. Empezemos por la Torre. La torre es puesta a lado derecho de la Iglesia con cinco campanas dos chicas y tre grandes la voz o sonido se oye de lejos, y algunas vezes de *Usva*[31] quatro o cinco leguas de la Mission de S. Luis Rey de Francia distante. De la Iglesia ya se dijo. Despues la Iglesia sigue el lugar de los albañiles, aqui dejan la mercha, cal etc. Despues de esto sigue el almazen de vino adentro hay docientos pipas de vino, aguardiente, y vino blanco, quatrocientos bariles, para la Misa, para vender a los Españoles y passegeros Ingleses que muchas veces vienen a la Mission para vender ropa, lienzo manta y lo que ellos trahen de Boston, y nò para los Neofitos lo que es prohibido a ellos porque facilmente se ven borachados; 5,[32] sigue el lugar endonde se hace el vino; 7, ventana del apossento del General de la California quando llega en la Mission; 8, puerta del P. Fernandino, hay quatro apossentos para los passageros en medio hay la sala Mayor, tres retratos uno de S. Luis Rey de Francia, el segundo de la Divina Pastora, el tercero de la Virgen de Guadalupe, en un rincon un Relox, y mas adelante el comedor; 9, ventana del Missionero de Udrio; 10, puertecita para el Missionero en tiempo de los terriblores para hugir facilmente; 11, apossento del Siervo del Missionero; 12, casa para los passegeros; 13, puerta que se llama la Mayor de todas, por aqui entran y salen los Neofitos para trabajar; 14, 15, 16, 17, 18, 19, casas para los Mayordomos Españoles de la Mission; 20, apossento grande para los Muchachos Neofitos con su patio y dos plantas; 21, Xaboneria; 22, apossento para las Muchachas; 23, corral para los ganados; 24, mulin; 25, corral de los corderos; 26, casa del Pastor; 27, corral; 28, Trox; 29, Trox; 30, lugar para los caballos del Missionero y de los passegeros y tambien para los costales de cebo; 31, enfermeria para las Mugeres; 32, enfermeria para los hombres; 33, cimenterio; 34, lugar endonde se hace el posole y atole; 34, apossentos para los Mayordomos; 35, quartel; 36, Fopanco; 37, Trox; 39, lugar para el panadero; 40, relox; 41, cocina; 42, camaras para los passageros; 43, almazen;

---

furono presentati dagli Indiani, per esser battezzati cinquantaquattro bambini; dopo soli diciassette giorni i battezzati eran già circa cento e fra questi i tre principali *capitanejos* della regione. La chiesa fu cominciata a costruire verso la fine del 1799.

[30] La parola *chicas* è aggiunta di mano del Mezzofanti.

[31] *Usva.* Si tratta quasi certamente del paese che in ispagnuolo si chiama *Las Flores* e in luiseño, *Usva* secondo il nostro ms., *Ushmai* secondo Kroeber, *Shoshonean Dialects,* p. 147 e Sparkman, *The Culture of Luiseño Indians,* p. 192.

[32] Questo numero e tutti i seguenti, dovevan certo riferirsi a una pianta o disegno della Missione che sarà stato unito al Manoscritto ma che è andato perduto. Ora non si trova che una piccola pianta dell' *Huerto* e del *Potrero* che ha scarsa importanza e non credo valga la pena di riprodurre. È invece molto interessante tutta questa descrizione dell Missione; utile il confronto con quella che ne ha fatto il Robinson, *Life in California,* 1846 pp. 24–26 in seguito alla sua visita nel 1829.

44, jardin; 45, almazen de frazadas, almazen de arina; 46, molin; 47, telar minor; 48, telar mayor; 49, lugar endonde se hace el azeyte; 50, herreria; 51, Trox; 52, zapateria; 53, lugar de los asneros; 54, puerta segunda mayor; 55, apossento del mayordomo de Pala;[33] 56, carpinteria; 57, lugar de las vigas; 59, lugar de los cueros. En pocos años se hizo todo. . . .[34]

. . . Hazia Sud hay un huerto muy grande con su potrero a lado; dejimos que la Mission era puesta sobre un montecillo, conque de bajo de este montecillo hay una fuente perenne de donde trahen los Neofitos y el Missionero, al agua para beber. Hicieron dos fuentes ante la puerta del huerto, en medio de ellas una escalera para bajar y subir por lo que es echa toda de ladrillos. La puerta para entrar en medio tiene tres gruessos palos, uno de ellos encajado en tierra llega ariba en la pared, los dos casi lo fajan haciendo una cruz de todas partes si se quiera ver y el aguador queriendo passar, empuja un palo y los dos se vueltan y en esto el passa con comodidad llevando la cantara sobre sus cargadores espalda mas fuertes que de los mismos asnos. La escalera es muy alta, que en un mismo viage no se puede subir por ella, y es menester descansarse en medio de la misma. Sucede muchas veces que se cansen en balde (como se dice), porque llegando a la puerta queriendo passar por ella de priessa se quiebra la cantara, y se vuelven a casa sin agua y cantara bañados de agua.

Se pusieron los palos para no dejar entrar a los toros, caballos, bravos quando ay el toreo aunque ellos entran muchas veces y hisieron a los vigas que aqui se hallaban lavandos sus ropas. Mas adelante de las dos fuentes ay la puerta del huerto que de los fuentes se passa per un puertecito, de bajo passa el agua de los dos fuentes corriendo hacia el ovest como una zanja y baña otro huerto casi una legua distante de la Mission.

El huerto es espacioso, lleno de arboles de frutos de Peras, Manzanas o Pirones (como dicen los Mexicanos) duraznos membrillos, Peras dulces Granadas, Higos, Jandias, Melones, Legumbres Coles, Lechugas, Chiles, Rabanos, yervas buenas, peregiles y otros de losque no me acuerdo. Las Peras, Manzanas, durasnos, membrillos Granadas, Sandias, Melones para los Neofitos los de mas que quedan para el Missionero. Algo cada dia debe llevar el hostelano. Ninguno de los Neofitos puede ir al huerto o entrar para cortarse los frutos Mas si el quiere pida al Missionero que prontamente de darà lo que pide porque el Missionero es padre de ellos. Podria encontrase el hostelano andando y cortando los frutos que luego lo sigue para castigarlo, hasta que se salga los parades del huerto Brincando como ellos muy saben (que parecen venados per los montes).

Una vez un Neofito entrò en el huerto sin que lo supiese el hostelano, y como tenia mucha hambre, so subio a un higo, aquì empezò a comer a toda priessa, un higo ma duro y grande, no a pedazos, mas entero se lo dejò caer por lo Garganta, y el higo se atorò por ella, el entonces empezò atercerse hastaque gritò como un cuervo y se lo tragò. El hostelano oyendo la voz del cuervo y con Indios ojos luego hallo cuervo que de miedo no comia mas lo estaban viendo el le dixo "ya te veo cuervo sin alas, aora te heriré con mis flechas'' entoces el Neofito a toda priessa se huye lejos del huerto.

---

[33] Piccolo villaggio di Indi; l'incorporazione con San Luis Rey ordinata da José Figueroa, governatore, avvenne nel 1834.

[34] Qui finisce il *papel tercero.* Manca il *papel quarto* che certo è andato perduto. Si passa dunque subito al *quinto.*

Hacia est del huerto ay el potrero para los Caballos del P. Fernandino y para de los Passageros Anglos Americanos, es espacioso como el huerto perdebajo lleno de agua y por esso verdes yerbas tiene, ay muchos arboles, muchos paxeros, muchissimos cuer[viorv]os[35] llegan a la tarde para dormir y se dexan caer desde el alto haciendo maromas hasta llegar sobre los Arboles. Aqui tambien los trabajadores hallaron un Leon Californes que es igual al gato de Europa, pero mas valiente de un tigre, no por sur fuerza, mas por su agilidad, que es muy difficil a matarse, el mata a los caballos con un brinco agarrandolos, luego los degolla, y por esso el es temido.[36] Los trabajadores lo hallaron, y porque eran ellos muchos el leon de ellos tenia miedo y tambien por los gritos que echaban siguendole corria brincando allende u aquende al rededor del Potrero, los Indios escondidos de tras de los Arboles lo tiraban con piedras hasta que uno le tirò en medio de la frente y pronto desmayado cayendo luego murio.

Aqui se hacen landrillos y texas para la Mission. No se hallan venados. Mas allà del huerto sigue camino hacia el presidio de S. Diego en donde està el General de la California.

Por no hablar mucho de los huertos dela Mission de S. Luis Rey de Francia dela alta California el P. Fernandino hizo cinco huertos grandes, es decir tres en la misma mision, uno en el pays llamado por nosotros ''*Pala*'' el quinto en otro pays (que aora no me acuerdo el nombre), todos uberrimos de lo que se siembra. Quattro payses, la Mission, *Pala, Temeco* y *Usva,*[37] tres ranchos. La Mission de S. Luis Rey de Francia, assi nombròla el Padre Fernandino despues de haber cumplida toda la casa, porque el patron nuestro es el Rey S. Luys. Mas nosotros en nuestra lengua la llamamos ''*Quechla,*'' assi nuestro avuelos la llamaron porque en este pays habia una calidad de piedras que se llamaban *quechlam* en plural, y en singular, *quechla*, y nosotros habitadores de *quechla* nos nombramos *Quechnajuichom* en plural, *Quechnajuis* en singular quiere decir habitadores de *quechla.*[38] En *Quechla* no mucho a, habia cinco mil almas, con todos sus payses cercanos, ya por un mal que vino a California dos mil almas murieron, y tres mil se quedaron. El Padre Fernandino como el era solo y muy solito con sus Españoles Soldados, viendo que seria muy dificil que el solo pudies e mandar a aquella gente, y mas gente que pocos años ante dejado habia los bosques, puso Alcaldes, puso por esso Alcaldes de la misma gente, que sabian mas que los otros hablar Español y que por costumbres mejores eran de los otros, estos Alcaldes fueron siete con sus bastones por señal que ellos podian juzgar a los demas. El Capitan se vestiò como los Españoles, quedando siempre capitan pero no mandando a su gente como en antigua, quando eron todavia Gentiles. El Mayor de los Alcaldes se llamaba el General, sabia nombre de cada uno, y quando tomaba algo en general el entonces nombraba cada sujeto por su nombre. Los Alcaldes por la tarde se juntan a la casa del Missionero llevan las novedades de aquel dia y si el Missionero les dice algo que toda la Gente del pays debe saberla [ellos volviendose a los aduares van gridando; [Mañana por la mana]. . . .

---

[35] *Cuerviorvos* è evidente errore per *cuervos*. I corvi sono assai frequenti in quella regione e nel culto pagano dei Luiseños avevan grande importanza, cf. Sparkman, *The Culture of the Luiseño Indians*, p. 218.

[36] Si tratta certamente del giaguaro.

[37] Di *Pala* e di *Usva* si è detto alle note precedenti; *Temeco* del nostro ms. corrisponde al *Temeku* di Kroeber, *Shoshonean Dialects*, p. 147; *Temeko* di Sparkman, *The Culture of the Luiseño Indians*, p. 182. In ispagnuolo *Temecula* spiegato dal Buschmann, *Die Spuren der Aztekischen Sprache im nördlichen Mexico*, p. 533, com. *Temezcalla* (in att.) = Ort der Badehäuschen. Per i paesi aggiunti alla missione di San Luis Rey nel 1834, cf. Hittel, *History of California*, II, p. 206.

[38] Questa spiegazione è interessante; ma si tratta solo di un etimologia popolare. La vera etimologia del nome *Quechla, Kechi, Kecham* è da ricercarsi invece nella radice della parole significanti ''casa,'' ''abitazione'' e cioè *ki-tcha, kich* ecc. così come il nome dei Gabrieleni *Kij* (Hale) *Kizh* (Buschmann) da *ki-g* ''casa'' ecc. Vedi parecchi esempi presso Kroeber, *Shoshonean Dialects*, p. 103–104.

Los Alcaldes volviendose a los Aduares cada uno dellos por donde passa va gritando lo que el Missionero les habia dicho, en su Idioma y todo el pays està oyendo. Mañana, se empieza a siembrar y poresso los gañanes vayan al gallinero y alli se junten: y de nuevo estas mismas palabras va diciendo hasta llegar a su mismo aduar para tomar àlgo, y despues acostarse, y mañana usted verra a los Gañanes parse para el Gallinero, y aqui juntarse segun ayer noche habian oydo.[39]

Con los gañanes va un Mayordomo Español y otros Alcaldes Neofitos, para ver, como se trabaja, si son flojos para apurarlos que pronto acaben lo mandado y castigar al culpable, o flojo que dejando su arado, se deja por el campo quedandose con su flogidad. Trabajan todo el dia, pero no siempre, a las doce se deja el trabajo, y entonces les trahen ''*posole*'' (Posole dicen los Españoles de California el Mays cocido en agua caliente) y l comen con gusto y se quedan artos (sic) hasta la tarde quando se vuelven a sus aduares. Los Zapateros trabajan haciendo sillas, muchiles, riendas, Zapatos. Para los Vaqueros Neofitos, y Mayordomos y soldados Españoles y quando han acabado llevan, y entregan al Missionero, para dar a los Vaqueros. Los herreros haciendo frenos, llaves, chapas, clavos para la Iglesia, y todos trabajan para todos.

Hemos dicho que *Quechla* era el primer de los Payses siendo esso el primer lugar del Padre Fernandino, y la misma Mission. Al rededor dello son puestos los otros payses y ranchos de la Mission de S. Luis Rey de Francia, hazia oriente hay, el ranche de *S. Marcos,* y el Pays llamado *Pala,* y otro rancho azia setentrion, ay *Temeco, Usva* y un rancho. En la Mission de S. Luys Rey de Francia esta el Padre Fernandino como un Rey, tiene sus pages, Alcaldes, Mayordomos, Musicos, Soldados, huertos, ranchos, ganados, caballos, a millares, vacas, toros a millares, Bueyer, mulos, Asnos, Corderos doce mil, cabras dos cientos etc. Pages para si, y para los Passageros Españoles y Mejicanos, Ingleses y Anglos Americanos. Alcaldes para que le ayuden a gubernar, toda la gente de la mission de S. Luys Rey de Francia, Mayordomos, se hallan en los payses lejanos casi todos Españoles, Musicos dela Mission para los dias de Fiesta, y todos los Domingos y Festividades del año con ellos los cantores, todos Indios Neofitos. Soldados para que ninguno haga daño ni a Español ni a Indio, que por todos son diez y van a caballo. Huertos que son por todos cinco y muy grandes. El Padre

---

[39] Qui certo mancano alcune parole (che saranno state omesse per distrazione) perchè il senso rimane oscuro.

Fernandino poco toma, y como casi todos los huertos sacan vino el que bien conoce los costumbres de los Neofitos, nada de vino quiere dar a ninguno de ellos, mas lo vende a los Ingleses u Anglos Americanos, no por dinero, mas por ropa para los Neofitos, lienzo para la Iglesia, Sombreros, fuciles, platos, café, tè, Azucar, y otras cosas. La Cosecha de la Mission es, Manteca de Vaca, Cebo, Cueros, Gamuzas, pieles de osos, Vino, Vino blanco, Aguardiente, Azeyte, Mays, Trigo, Triol, y tambien cuernos de Toros que los Ingleses se los llevan a millares a Boston.

Lo que se hace cada Dia

Quando el Sol sale y las estrellas y la Luna caen entonces el viejo de casa despierta todos y empieza por el almuerzo, que es, tomar el *Juiuis* calentado, y carne y tortillas, que pan no tenemos; echo esto toma su arco y flechas y sale de Casa con sus passos valientes y ligeros (esso es si va al cazo)[40] y se lleva a los lejanos bosques llenos de osos y liebres venados, y millares de paxaros, aqui está todo el dia mattando quantos piede, siguiendoles escondiendose de tras los Arbles, subiendose por los mismos y despues carcado de liebres se vuelve a casa Alegre; pero quando falta madera, el luego por la mañana sale de casa con su lazo a los hombros y su acha con compañeros, que se puedan ayudar, quando es muy cargado el cargo y por la tarde se vuelve a casa; Su vieja quedandose en casa hace la comida, el hijo si es hombre echo trabaja con los hombres, su hija con las Mugeres se queda haciendo camisas, y si estos tambien tiene hijos, y hijas, se quedan en la Mission, los hijos a la escuela a aprender el abecedario, y si ya saben, aprender el Catecismo, y si esso tambien, al coro de los cantores, y si fue cantor, al trabajo, que ya todos la cantores Musicos, el dia de trabajo trabajan y el Domingo al coro a cantar; pero sin libro, porque ya antes el Maestros los insegna a Memoria teniendo èl el libro. La hija se junta con los soleteras que todas hilan para frazados de los Sanluiseños, y para la tunica del P. Fernandino. Alas doce comen juntos, y dejan su porcion al viejo, sus tazas de barro, sus vasos de yerba bien tejida que, el agua no puede salir, sino quando es tenida ante la cara del sol sus sartenes de barro,[41] sus parillos de palo echar para aquel dia, y sus cantaras para el agua, tambien de baro, sentados al rededor del fuego estan hablando y comiendo, pobres de ellos si en aquel tiempo cierran la puerta, entonces el humo levantandose, siendo mucho, y siendo el aduar pequeño, que sierve de ventana, se vuelve a baxo quieriendo salir por la puerta, queda en medio de la casa, y entonces se come hablando riendo y llorando qin quererlo. Acabada la comida se vuelven a sus trabajos, el Padre deja al hijo, el hijo deja a la hermana, la hermana al hermano, el hermano a la Madre, la Madre a su Marido, con consuelo, hasta a la tarde, antes de acostarse de nuevo comen lo que la vieja y el viejo han echo en quel tiempo y despues duermen.

---

[40] Leggi *a la caza.* Questi Indi sono espertissimi cacciatori, cf. Sparkman, *The Culture of the Luiseño Indians,* p. 197 segg.

[41] Per il vasellame di terra dei Luiseños cf. Sparkman, *The Culture of the Luiseño Indians,* p. 201 (Pottery); per gli utensili e i lavori fatti con giunchi, cf. Sparkman, *op. cit.,* p. 202 (Articles made of plant fibers).

DEL BAYLE DE LOS INDIOS[42]

Cada gente de Indios tiene sus Bayles,[43] diferentes de los otros Bayles. En Europa se bayla por alegria, por festin, por alguna novedad fausta. Pero los Indios de California, no solo por festin baylan, mas tambien antes de empezar la guerra, por llanto, porque han perdido la Victoria, y por recuerdo de los avuelos, tios, Padres ya muertos. Aora que somos nosotros Christianos baylamos per ceremonia.

El Bayle de los Yumas es casi siempre triste, y assi el canto, lo mismos es de los Dieguinos: Pero nosotros Sanluiseños tenemos tres maneras principales[44] solo de los hombres, porque las Mugeres tienen otros, y que jamas pueden baylar con los hombres. Tres principales, dos para muchos, y el otro para uno, el que es mas difficil. De estos dos en muchos baylar se puede, y en una manera se puede baylar dia y noche, y en otra solo por la noche.

PRIMER BAYLE

Qualquiera no puede Baylar sin la permission de los Viejos, y debe ser de la misma gente, joven de diez y mas años. Los Viejos antes de hacer los Baylos publicamente, los enseñan el canto y los hacen aprender perfectamente, porque el bayle consiste en saber el canto,[45] porque segun el canto se hagacha (sic), segun el canto da tantas patadas quantos saltillos hacen los cantores, que son los viejos, los Viejos y otros, mas de la misma gente. Quando han aprendido, entonces les pueden hacer baylar, pero ante de esso le dan algo de beber,[46] y entonces aquel es baylador, puede baylar y no quedarse, quando los otros baylan.

---

[42] Nel foglio segnato col. No. 61–62 nella vecchia numerazione del ms., si trova una variante della prima parte di questa sezione che riguarda il ballo. La riproduco in questa nota: Del Bayle—Los Bayles son de muchas maneras segun los generos de Indios. Los Indios llamados Yumos, tiene sus Bayles. Los Apaches otra gente tambien ella tiene su Bayle, los Dieguinos Christianos, tienen sus Bayles, los Sanluiseños, que somos nosotros tenemos muchos los hombres, y otras maneras las Mugeres. Assi los Sanjuaneños, los Gabrieleños, los Fernandinos y los de Monte Rey tambien ellos tienen sus bayles diferentes los unos de los otres.

El bayle en Europa es solo por alegria, mas nosotros por alegria por llanto, por hacer guerra, por la buena cosecha. Aora que somos christianos solo baylamos por ceremonia, por recuerdo de nuesfros Padres, Avuelos, porque murieron, u porque han sido vencidos en guerra. Tres maneras mejores ay de baylar para los hombres. Uno en general, y nosotros llamamos *tanniš*, baylar, o mejor dar patadas. Ninguno puede baylar sin la permission de los Viejos de aquella gente de donde el es; se enseñan a los Muchachos quando tienen diez, once y mas anos, y en cierto tiempo se hace, ye se empieza a enseñar. Por la mañana estos bayladores se levantan y los Viejos les dan de beber algo, y despues se dice que ellos son bayladores; y entonces pueden baylar sin que ninguno les pueda quitar del Bayle. Antes de baylar empiezan a vestirse de plumas como los antiguos, y dos de ellos saliendo de la casa gritan queriendo decir que haga lugar, llevando las espadas de madera, que llamamos *uacatom* y los hombres que van gritando. . . .

[43] Il ballo era una funzione religiosa del rito pagano, ma formando parte essenziale della vita dell'indigeno, alcune specie di balli furono permesse dai missionarii anche ai convertiti. Per la funzione del ballo nel culto pagano dei Luiseño cf. Dubois, Constance Goddard, *The Religion of the Luiseño Indians*, passim.

[44] Probabilmente queste tre specie erano le più comuni fra quelle permesse dai Missionarii ai Cristiani.

[45] Questi canti hanno grande importanza; molti sono stati raccolti col fonografo e si trovano nelle Collezioni dell'Università di California. Nella citata opera della signorina Dubois si trovano parecchie traduzioni (Canti per le feste della prima mestruazione, canti funebri ecc.).

Entonces los vestidos son de plumas de varios colores,[47] y el cuerpo pintado, y el pecho es abierto, y desde la cintura hasta las rodillas se cubren los brazos sin vestido, en la mano derecha llevan una madera echa para quitarse el sudor, la cara pintada, la cabeza fajada con faja de cabellos tajidos (*sic*), para poder encajar los "*cheyatom*" nuestra palabra, este *cheyat,* es echo de plumas, de qual quier paxaro, y casi siempre del cuervo, y del gabilan, y en medio un palito agudo para poder encajar. Assi estan en la cosa, quando al instante salen dos hombres llevando cada uno dellos dos espadas de palo y gritando, sin decir alguna palabra, y despues parandose ante el lugar donde se bayla estan mirando al cielo algun rato, la gente se calla, y ellos se vuelven y entonces salen los bayladores.

Estos dos hombres se llaman por nostros *Pajaom,* quiere decir serpientes vermejos, en California hay serpientes vermejos largos, estos no muerden, mas dan azotes a quen se avicina a ellos.

Los bayladores en este bayle pueden llegar hasta treinta, o menos o mas saliendo de casa, vueltan la cara a los cantores y empiezan a dar patadas, pero no fuerte, porque no es tiempo, y quando se acaba el canto el capitan de los bayladores, tocando sus pies grita *hù,* y todos se callan, el de nuevo viene a los cantores, y canta, y todos baylan, y alfin grita *hù* y se callan los cantores, y ellos hacen la voz del caballo que busca a su hijo. La voz *hù* nada significa en nuestra lengua; pero los bayladores entienden que significque "callaos." Quando el capitan no dice *hù,* no puedan callarse los cantores y repiten y repiten el canto hasta el alvedrio (sic) del capitan. Despues van ante los cantores y toda la gente que los esta viendo y el capitan de los bayladores canta a bayla y los otros lo siguen, baylan en circo dando patadas, y quien se cansa, queda en medio circo y despues sigue a los otros, ninguno puede reir en este bayle, y todos con la cabeza agachada, los ojos hazia la tierra siguen a los primeros; quando està para acabarse el bayle todos se quitan el *cheyat,* y teniendolo en mano derecha, lo llevantan al cielo sopplando a cada patada que dan a la tierra, y el capitan con un *hù* acaba el bayle y todos se vuelven a las casas de los vestidos, y en esto los Viejos empiezan a chupar, o fumar, y todo el humo echan al Cielo, tres veces antes de acabar el Bayle echo esto se acaba el Viejo se vuelve a su Casa cansado. Porque el Bayle dura tres horas y es menester cantar por tres horas, se bayla en media dia, quando en Sol quema mas, y entonces las espaldas de los Bayladores parecen fuentes de agua, por tanto sudor que les cae. Este bayle es difficil, y entre dos mil hombres habia uno que sabia bien baylar.

SEGUNDO BAYLE

El Bayle segundo, jamas me plegue porque quien mas puede gritar, grite, quien brincar, brinque, pero siempre segun el canto, y mucho se assemeja al Bayle español. Hay un viejo cantor que tiene un galápago muerto, en medio un palito, y las manos, pies, la cabeza y la cola son topados, y se ponen adentro piedritas, y assi moviendole da su sonido. Y siempre se bayla por la noche, pueden baylar entre muchos, quando baylan los Viejos les echan trigo y mays, y aquì tambien pueden baylar las Mugeres.

---

[46] Cf. Dubois, *The Religion of the Luiseño Indians,* p. 79.

[47] Per gli abbigliamenti di piume, cf. Sparkman, *The Culture of the Luiseño Indians,* p. 186. A questo punto nel ms. si trova un foglietto con delle figurine disegnate molto primitivamente, che rappresentano due Indi Sanluiseños nell'atto della danza, abbigliati di piume. Credo inutile riprodurla.

TERCERO

El tercero es el mas difficil, y por esso pocos son los bayladores desta manera. En esto bayle uno bayla, antes que el baylador salga, salen dos hombres que llamanse serpientes vermejos (como hemos dicho). El baylador lleva su *pàla* de la cintura hasta las rodillas, echa de plumas. En la cabeza lleva una larga pluma de un aguila, y en las manos dos palitos bien echos, gruesos como un carrizo, y largos una palma y media y todo el cuerpo pintado. El circulo endonde bayla es su circumferencia de ochenta passos, mas a menos segun el lugar; y a quattro a siete passos hay un viejo que cuida para quel el Baylador no pueda caer, loque es muy facil porque debe mirar al cielo, un piè empinado, el otro en tierra, un brazzo por el ayre, y el otro hacia la terra, y assi debe caminar al rededor de aquel circulo, este circulo es echo de gente que quiere ver el bayle.

Empezemos; salen los serpientes, y la gente se calla, y entonces dos cantores empiezan a cantar con el *cheyat* por la bocca diciendo *hù* . . . por tres veces, dejimos que nada significasse. Sale despues el baylador y empieza a correr por aquel circulo, los cantores cantan, el bayla segun el canto como hemos dicho y quando baylando se arrima a un Viejo, el le dice *hù* y levanta sus manos, y el baylador sigue su camino, el no pueda ni reir ni hablar, se acaba, los Viejos fuman, y se vuelven a sus Aduares.

Dejemos los otros bayles, y tambien aquellos de las Mugeres. Aora vea mos los juegos que aqui se sirven los Sanluiseños y digamos los principales, y de que mucho nos servimos. Hay el Juego llamado por nosotros "*uauquis*" es decir juego de la pelota con el palo,[48] o mejor garrote, empezamos por ello.

JUEGO DE LA PELOTA

El lugar endonde se juega es todo llano, largo un quarto y medio de hora, ancho lo mismo, los jugadores todos hombres de trenta hasta sesenta años, en todos pueden ser setenta u ochenta, treinta u quarenta hombres de un lado, treynta u quarenta de el otro, dos Caudillos se ponen, de este, y de aquel lado, cada uno de los hombres tiene su garrote, alto quatro palmas, gruesso cinco dedos juntos, de bajo arqueado, la pelota del juego es de madera, gruessa mas de que un huevo de uajolote (sic). Hay dos señales donde ellos deben tirar la pelota, y quando el enemigo passa este señal el ha gañado.

La ley es que, no puedan llevar en mano por mucho rato, mas en tierra con el garrote. En medio del juego entierran la pelota, y la deben sacar los dos caudillos con sus garrotes, cada uno quedandose hacia su señal, y de tras sus compañeros con los garrotes levantados esperando la pelota, y quando sale, cada uno quiere llevarla a su señal. Y aqui alboroto, empuxones, fuerzas de hercules es menester si uno por ventura saca la pelota tirandola con toda fuerza a su señal, la echa en medio del señal los enemigos lo siguen, otros detienen a otros, otros se tumban, quien cae corriendo resbalado, quien con igual carrera llega hasta la pelota, y de allò la lleva por otra parte corriendo, demiedo de que no se la quiten, y viendo de lejos a sus compañeros, les echa por el ayre la pelota, aquellos se la llevan corriendo a toda priessa a su señal, los enemigos los atajan, y aquì alboroto, carrera de renado para huir, para que no los alcancen o lleguen, y dura tres, o quatro horas este juego.

---

[48] I vari giochi della palla sono molto amati dagli Indi. Per i giochi degli Indi confronta la eccellente e voluminosa monografia di Culin, S., *Games of the North American Indians, Twenty-fourth Annual Report, Bureau of American Ethnology,* Washington, 1903. Per i Luiseños v. anche Sparkman, *The Culture of the Luiseño Indians,* p. 212.

Tambien las Mugeres juegan, y esso cada Domingo con permission. Los Sanluiseños saben bien jugar, hombre fuertes. Una vez salieron treynta Sanluiseños y se fueron para S. Juan, otra Mission cercana a la Mission de S. Luis Rey de Francia nuestra Mission,[49] allì llegaron, y fueron convidados a judar (*sic*) a pelota, ellos dejiron ''queremos, pero hagamos ley, que no se pueda la pelota llevarse en mano,'' aquellos sì dijeron ''assi haremos, con toda justicia jugaremos.'' Al Domingo por la tarde, los Sanluiseños toman sus garrotas y se van al lugar del juego.

Aquellos los reciben y los llevaron al lugar del Juego. Empezaron a judar (*sic*) con la misma ley como los Sanluiseños; y como ya hemo dicho adelante. Toda la gente de este Pays estaba viendo el Juego, y el capitan tambien de aquel pays a cavallo estaba viendo. Todos treynta Sanluiseños bien jugaban, y a carrera vencian a los Sanjuaneños, quando un Sanjuaneño y toma, la pelota y en mano la lleva, llega entonces un Sanluiseño, y agarrandolo por las cinturas, lo echa en alto, y lo hace caer, vino otro Sanjuaneño, para defender a su Paysano, van otros Sanluiseños a ajudar al primero, de tras de estos vino el capitan [y] azotò a un Sanluiseño, entonces uno de los Sanluiseños, mas fuerte y de cuerpo gigante diò un brinco, tumbòlo, el cavallo lo pisò y arrastrado de bajo los pies levantarse no podia, vino el pueblo por el alborroto con garrotes en mano, las Mugeres siguieron un Sanluiseño que no tenia garrote, mas se podia bien defender, con brincos, aunque fuere torneado, y pordoquiera las Mugeres piedras le echassen, pero no lo dañaron.

Los Sanjuaneños huyen con sus rajadas cabezas, se quedan los solos Sanluiseños, uno queria dar golpe a otro creyendo que fuesse Sanjuaneño portanto furor no conocianse, y de nada miedo tenian. Llegan los Soldados Españoles ya que era acabado el alboroto porque ellos tambien tremblaban, y por palabras querian acabar el tumulto. El caudillo delos treyinta Sanluiseños[50] era indio y hablaba como los Españoles, el indio le decia ''levanta tu sabla y entonces yo te comeré'' pero en su lengua, y despues no hura novedad.

R. Universita di Bologna, Italia

---

[49] *Juaneño* sono detti gli abitanti della missione di San Juan Capistrano immediatamente confinante col territorio dei Luiseños verso Nord Ovest. I balli e riti dei Juaneño son stati descritti nel sopra recordato libro del Padre Boscana, *Chinigchinich* (in A. Robertson, *Life in California*, 1846).

[50] Qui nel ms. è ripetuta per distrazione la frase ''El caudillo de los Sanluiseños.''

LE MANTEAU DE PLUMES DIT DE ''MONTÉZUMA'' DES MUSÉES ROYAUX DU CINQUANTENAIRE DE BRUXELLES

PAR J. S. HARRY HIRTZEL

LA plupart des auteurs qui ont traité de l' ''Arte Plumaria'' en Amérique et particulièrement au Mexique mentionnent généralement parmi les derniers vestiges que nous possèdons de cet art curieux, le manteau dit de ''Montézuma'' appartenant aux Musées Royaux du Cinquantenaire de Bruxelles.

Ce manteau de plumes n'a à notre connaissance jamais été étudié, et n'a que très rarement été exposé; ce n'est que depuis la création de la section d'antiquités américaines des Musées du Cinquantenaire que les collections sont rendues accessibles au public.

Les caractéristiques de ce manteau sont les suivantes: longueur totale 1 mètre 92 centimètres, sa plus grande largeur est de 1 mètres 60 centimètres, et la plus petite largeur, celle du col, est de 55 centimètres.

Il est formé de trois pièces: le col, ou une sorte de collerette fabriquée d'un autre genre de plumés que le manteau lui-même, la partie supérieure du manteau est longue de 92 centimètres et la partie inférieure a un mètre du longueur.

La partie inférieure du manteau à été assez grossièrement ajustée à la partie supérieure.

La technique de confection est simple, et rappelle exactement celle du manteau de plumes provenant du Brésil et que possède le Musée Ambrosiana de Milan.

Les plumes sont montées sur une sorte de bâti ou de carcasse fait de fines baguettes en bambou et de cordelettes formant un filet sur lequel sont liées des plumes dont les extrémités sont repliées sur elles-même, s'accrochant ainsi à la carcasse.

Les plumes sont posées sans ordre, les unes à côté des autres; cet assemblage fait au hasard ne forme donc aucun dessin, ni sujet décoratif quelconque.

On a déjà pu se rendre compte que cet ouvrage n'est certainement pas l'oeuvre des habiles ''amantecas,'' qui formaient à l'époque de la conquête du Mexique une puissante corporation; nous y verrions plutôt la technique des Indiens du Nord due Brésil ou de la Guyane.

Nous avons voulu cependant chercher dans les archives belges des documents concernant l'origine de cette attribution erronée, nous avons pu remonter à la source de nos investigations jusqu'au dix-huitième siècle, grâce à la découverte d'un manuscrit conservé à la Bibliothèque Royale de Bruxelles (manuscrit II, 2a, serie, n-878, dix-huitième siècle), qui, énumérant les ''curiosités qui sont dans la Salle des Armes de Bruxelles'' cite les pièces suivantes ''un manteau en plumes rouges provenant de Montézuma, . . . quatre pièces à l'indienne à l'épreuve des flèches empoisonnées. . . . On y voit des arcs, tant Indiens, Polonais, Tartares et Tures . . . le tout se voit dans l'Arsenal de Bruxelles.''

Dans un inventaire "des antiquités et raretés qui étoient dans l'endroit nommé Arsenal de Bruxelles;" dressé par Georges Gérard ancien secrétaire de Marie-Thérèse, se trouve les mentions suivantes:—

> No. 32, "quatre pièces d'armes des Indiens."
> No. 70, "une pièce d'habillement ou manteau composé de plumes rouges qu'on dit avoir appartenu à Montézuma, empereur du Mexique."

Cet inventaire à été dressé en 1782.

Un autre inventaire, dressé par le même Gérard, mentionne:—

> No. 24, "quatre pièces d'armes à l'indienne."
> No. 26, "des flèches des Indiens."
> No. 27, "un carquois Indien."
> No. 28, "un arc Indien."

L'abbé Mann, dans sa "Description de Bruxelles et de ses environs," imprimée à Bruxelles, en 1785, énumére les principales curiosité que renfermait à cette époque l'Arsenal: "On y montre encore dans cet arsenal, dit l'abbé Mann. . . . les armes de Montézuma, empereur du Mexique."

Enfin dans une note relative à l'Arsenal, insérée en 1845, dans les Bulletins de l'Académie des Sciences et Belles Lettres de Bruxelles (tome 12, Ire, partie, p. 186) le Chevalier Marchal déclare:—

> "il y aurait dans ce musée militaire, j'en parle avec la plus grande certitude, les ayant vus un grand nombre de fois, avant le mois de juin 1794, quelques trophées américaines envoyées à Charles-Quint par Cortès, après la conquête du Mexique. On y remarquait les armures complètes de Montézuma, ou selon la vraie prononciation Mocteusum et de sa famille; elles étaient aussi en 1809 au Ritter-Schloss à Luxembourg. On en trouve l'indication dans la vieille liste côtée 19030 à la Bibliothèque Royale de Bruxelles."

Nous nous empresserons de dire qu'il est très possible que Charles-Quint lors de son séjour en Flandres ait très bien pu y recevoir de Cortès un don de Montézuma, mais il est certain que les objets formant ce don ne furent pas laissés en Belgique; du reste les objets qui firent partie des collections de l'Armoire du Roi ou de l'Arsenal de la Cour, subirent de nombreux déplacements: c'est ainsi par exemple, qu'en 1777, les collections furent transférées, rue de la Paille, chez les Jésuites, en 1785, elles furent remises à la Chambre Héraldique, en 1794, les collections partirent pour l'Autriche, d'abord à Wurtzbourg, puis à Egra, et enfin à Vienne, etc.

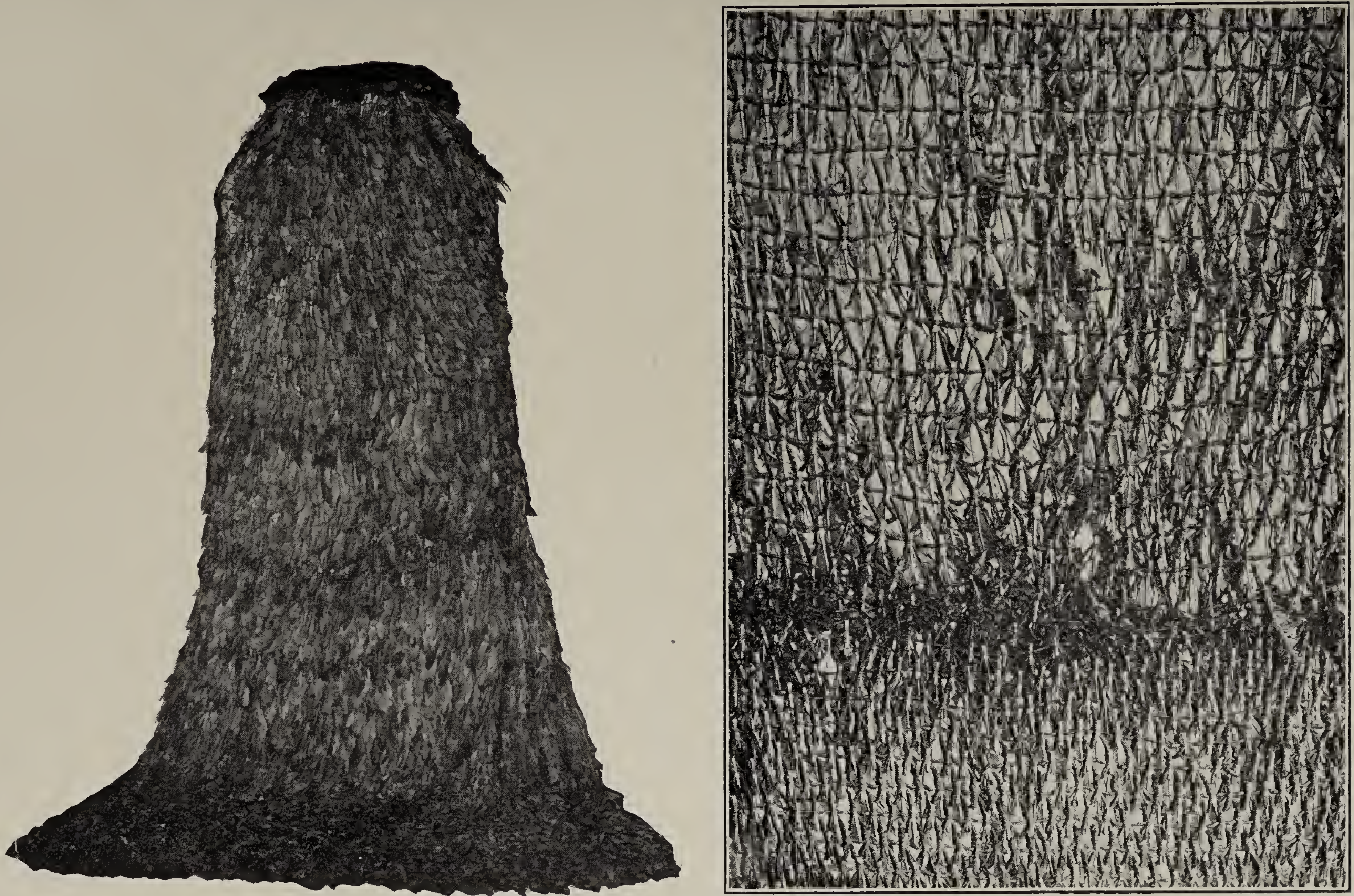
Par les photographies que nous donnons ci-après, on se rendra compte aisément de la technique et de l'aspect général du manteau, et on pourre franchement conclure que nous sommes loin d'être en présence d'un de ces merveilleux spécimen de mosaïque de plumes dont certains sont de véritables chef d'oeuvres de l'ingéniosité humaine.

Bibliographie

Beuchat, H. *Manuel d'Archéologie Américaine,* Paris, 1914.

Casas, Bartolome de Las. *Historia de las Indias.* Tomo I–V, Madrid, 1875–1876.

Cortès, F. *Correspondences avec l'Empereur Charles-Quint,* Trad. par de Flavigny, en Suisse, 1779.



Le manteau de plumes et la technique de son confection

Dias del Castillo, Bernal. *The True History of the Conquest of Mexico,* 1568, 3 vols., Translated by A. P. Maudslay, Hakluyt Society, London, 1908.

Heger, Franz. *Der Altamerikanische Federschmuck in den Sammlungen der anthropologisch-ethnographischendes K. K. Nat. Hofmuseums in Wien,* Wien, 1908.

Von Humboldt, A. *Vues des Cordillères et Monuments indigènes de l'Amérique,* Paris, 1910.

Joyce, Thomas A. *Mexican Archaeology,* London, 1913.

Kingsborough, Lord. *Antiquities of Mexico,* London, 1831–1848.

Lehmann, W. *The History of Ancient Mexico,* New York, 1922.

Martyr, Peter. *De Orbo Novo,* Trad. de Francis A. MacNutt, New York, 1912.

Peñafiel, A. *Monumentos del Arte Mexicano Antiguo,* Berlin, 1890.

Prescott, W. H. *Histoire de la Conquête du Mexique.*

Sahagun, Bernardino de. *Historia général de las Cosas de Nueva España,* Paris, 1882.

Saville, Marshall H. The Wood Carver's Art in Ancient Mexico, *Museum of the American Indian, Heye Foundation, Contributions,* vol. 9, New York, 1925.

Turquois Mosaic Art in Ancient Mexico, *Museum of the American Indian, Heye Foundation, Contributions,* vol. 6, New York, 1922.

Goldsmith's Art in Ancient Mexico, *Museum of the American Indian, Heye Foundation, Indian Notes and Monographs,* no. 7, New York, 1920.

Schellhas, P. Comparative Studies in the Field of Maya, *Bulletin 28, Bureau of American Ethnology,* Washington, 1904.

Seler, Eduard. *Ein Kapitel aus dem Geschichtswerk des B. Sahagun,* Berlin, 1890.

Ancient Mexican Feather Ornaments, *Bulletin 28, Bureau of American Ethnology,* Washington, 1904.

Spinden, H. J. Ancient Civilizations of Mexico and Central America, *Handbook Series, no. 3, American Museum of Natural History,* New York, 1922.

Institut des Hautes Études du Belgique

A MODERN SURVIVAL OF THE ANCIENT MAYA CALENDAR

By S. K. Lothrop

THE calendar employed by the ancient Maya Indians, generally considered the greatest intellectual achievement of aboriginal America, has received the attention of many scholars and has been the source of much controversy. New light is shed upon the ancient calendar by abbreviated survivals which recently have been discovered among the highland Maya tribes of Guatemala. Mr. Oliver La Farge has encountered a calendar among the Jacalteca, Mr. Blom has found one in southern Mexico, while the 1928 expedition to Guatemala of the Museum of the American Indian, Heye Foundation, has disclosed a native calendar operating among the Quiche, and has discovered that similar day-counts exist among the Mam and Zutugil tribes.

The Quiche calendar was recorded under the following circumstances. On March twenty-eighth, while sitting in the store of Mr. Ernest Lang in the town of Momostenango, I asked him whether he had heard of any native calendar in use among the Quiche Indians. In answer he handed me his European calendar on which he had written the indigenous day-count, for its use among the Momostecos is so universal that he has to employ both calendars in order to carry on his business. The names of the days as then recorded are given in the accompanying table. The meanings I obtained from don Abel de León, ex-alcalde and local schoolmaster, and from an Indian servant of Mr. Lang. This servant, when uncertain, appealed for a confirmatory nod to a shaman who happened to be present at the time. The spelling is that which they teach the children in the local school.

Calendar Used in Momostenango, 1928

Christian Date	*Quiche Date*	*Meaning in English*
March 28	Uajxaqíp Vats	8 Thread, Howling Monkey
29	Belejép E	9 Departure
30	Lajúj Ach	10 Staff
31	Julajúj Iírx	11 Thorn
April 1	Kaplajúj Tzíkin	12 Bird
2	Oxlajúj Achmak	13 Pumice, Sinner
3	Jun Noch	1 Living, Idea
4	Kep Tijáx	2 ?
5	Oxsíp Cauác	3 Eater
6	Kajíp Junajpú	4 Hunahpu
7	Job Imóx	5 Advancer
8	Uakíp Irsk	6 Shaman
9	Ukúp Ákabal	7 Nocturnal
10	Uajxaqíp Kat	8 Net
11	Belejép Kan	9 Walker
12	Lajúj Kamé	10 Death
13	Julajúj Quiéj	11 Horse
14	Kaplajúj Kaníl	12 Ripe
15	Oxlajúj Toj	13 Pay
16	Jun Tzíe	1 Dog

A glance at this list is enough to show that it is part of a *tzolkin* or *tonalamatl*, a sacred year of two hundred and sixty days which contains twenty day names combined with numbers running from one to thirteen. Before the Spanish conquest this peculiar time-period was known to all the more cultured natives from central Mexico to northwestern Costa Rica. They employed it, not for recording the passage of time, but in order to set the dates for certain festivals and to determine the chances for good or evil fortune.

Both these uses of the *tzolkin* survive today among the Quiche. For instance, the day *Tijax* they stated to be exceedingly unlucky, and no one would give me a meaning for it—perhaps for that very reason. Of their festivals, only one in Momostenango is still celebrated in accord with the ancient calendar. This they call *Uajxaqip Vats,* for it takes place every two hundred and sixty days upon the repetition of the day 8 Thread. It is a ceremony of confession, mostly pagan in character, which we have described elsewhere.[1]

In discussing the origin of the *tzolkin,* Bowditch[2] points out that it probably is older than knowledge of the solar year and that it well may be the survival of a lunar count, because two hundred and sixty days is almost equal to nine lunar months. To determine the validity of this idea I asked a shaman how often they repeated the *Uajxaqip Vats* ceremony, and he replied without hesitation, "Every nine months." Thus, the *tzolkin* among the Quiche is still definitely associated with a lunar count. This observation also applied to the Zutugil, who employ the same word (*Ik*) for moon and month.

In order to learn if any of the larger time-periods of the ancient Maya are still in use, I asked the shaman if he knew anything about year-bearers—the four days which can begin the solar year among the Maya. To this he answered that the Quiche did not now employ them, but that he knew about them because they still are found among the Mam villages to the west. Mr. Oliver La Farge tells me that year-bearers are still used by the Jacalteca. Probably greater knowledge of the calendar exists today among the Quiche than was disclosed by my informants and the use of the ancient solar count may well continue in isolated mountain villages.[3]

How does this Quiche *tzolkin* compare with other native calendars? To show its place in Middle America we give a table containing the day names used by other Maya tribes and by the Aztec.

This list shows that the Quiche and Cakchiquel day-names are almost identical. The Jacalteca, as one would expect from geographical propinquity, resembles the Quiche-Cakchiquel much more closely than does the Chiapas list. On the contrary, the Chiapas day-names show the closest relationship with the Maya of Yucatan, while the Jacalteca show least.

Analysis of the roots of the day-names brings out the fact that among the five Mayan groups cited the same root appears throughout in only seven in-

---

[1] Indian Notes, vol. VI, no. 1, New York, 1929.

[2] *The Numeration, Calendar Systems, and Astronomical Knowledge of the Mayas,* Cambridge, 1910, appendix II.

[3] Doctor J. Alden Mason has kindly informed me that he has discovered in the Berendt-Brinton collection at the Pennsylvania University Museum a manuscript entitled *Calendar preserved till the present time by the priests of the sun in Ixtlavacan a community descended from the Kiche nation discovered by the presbyter Vicente Hernandez Spina* Santa Catarina Ixtlavacan Ausut, the 12th, 1854.

Comparison of Day-Names in Middle America

Maya					Aztec
Chiapas	*Jacaltcca*	*Cakchiquel*	*Quiche*	*Yucatan*	
Mox	Imux	Imox	Imox	Imix	Cipactli
Ygh	Ik	Ik	Irsk	Ik	Ehecatl
Votan	Watan	Akabal	Akabal	Akbal	Calli
Ghanan	Cana	Kat	Kat	Kan	Cuetzpalin
Abagh	Apac	Kan	Kan	Chicchan	Coatl
Tox	Tox	Camey	Kame	Cimi	Miquiztli
Moxic	Che	Queh	Quiej	Manik	Mazatl
Lambat	Kanil	Kanel	Kanil	Lamat	Tochtli
Mulu	Mulu	Toh	Toj	Muluc	Atl
Elab	Elac	Tzii	Tzie	Oc	Itzcuintli
Batz	Batz	Batz	Vats	Chuen	Ozomatli
Euop	Evup	Ee	E	Eb	Malinalli
Been	Aj	Ah	Ach	Ben	Acatl
Hix	Ix	Yiz	Iirx	Ix	Ocelotl
Tzikin	Tsikin	Tziquin	Tzikin	Men	Quauhtli
Chabin	Chabin	Ahmak	Achmak	Cib	Cozcaquauhtli
Chic	Noh	Noh	Noch	Caban	Ollin
Chinax	Chinax	Tihax	Tijax	Eznab	Tecpatl
Cohogh	Cag	Caok	Cauac	Cauac	Quiahuitl
Aghual	Ajau	Hunahpu	Junajpu	Ahau	Xochitl

stances; in nine there are two roots; in four cases there are three roots. Clearly then there is considerable variation, but closer inquiry bridges some of the gaps. For instances, the Maya *Cimi* means "death," while the Jacalteca *Tox* means "death by violence." Again, the Quiche *Vats* and the Maya *Chuen* are linked together, because in the Popol Vuh there are two brothers called Hun Choven and Hun Batz who are turned into monkeys by Hunahpu. In this case, the corresponding Aztec day-name *Ozomatli* also means monkey. Doubtless a greater knowledge of the mythology and of basic word-meanings would multiply the number of such associations.

When the highland Maya day-name has a different root from the lowland Maya, often it is related in meaning but not in root to the corresponding Aztec day-name. For instance:—

Quiche:	Aztec:
Tzie, dog	*Itzcuintli,* dog
Noch, living	*Ollin,* motion
Tzikin, bird	*Quauhtli,* eagle
Ach, staff	*Acatl,* reed
Vats, howling monkey	*Ozomatli,* monkey
Quiej, horse	*Mazatl,* deer
Tijax, to draw out flesh	*Tecpatl,* flint

The last two parallels in this table require a word of explanation. *Mazatl* in Aztec means "deer," while the corresponding Quiche *Quiej* is "horse." The connection here is due to the fact that formerly the Quiche knew no large herbivorous animal except the deer and hence call a horse by the name used for deer. The Quiche *Tijax,* according to dictionaries, is derived from *ti,* "flesh," and *jax,* "to draw out," while the Aztec *Tecpatl,* "flint," is symbolized by a knife. The link between the two seems to be the idea of human sacrifice, in which the breast was opened with a flint knife and the heart drawn out. The day *Tijax,* as we have said, is considered unlucky by the Quiche.

The only possible linguistic link between the Aztec and Quiche day-names is the Quiche *Ach* and the Aztec *Acatl,* meaning respectively "staff" and "reed."

However, in the month-names used at the time of or shortly after the Conquest there are several such connections.

To understand the relationship thus disclosed between Aztec and highland Maya calendars, it is but necessary to consult the Popol Vuh, sacred book of the Quiche, where the close affinity between the highland Maya and the Toltec is strongly emphasized. And the Aztec, it is generally agreed, acquired their calendar from the Toltec.

We come now to the question of correlations. Many efforts have been made to reduce the ancient Mayan dates to European. These attempts have been founded upon conflicting documentary evidence of the sixteenth century from Yucatan and, in recent years, upon astronomical data contained in Mayan codices and inscriptions. Ultimate elucidation of the Maya dating must depend upon the astronomy, but any such correlation must pass the barrier of documentary evidence. Here the modern Quiche *tzolkin* is of importance because it (as well as the other existing calendars) is in accord with the typical Maya year set down by Diego de Landa,[4] which has been the basis of the correlations suggested by Spinden[5] and Thompson.[6]

A further and important point made clear by the unity of the existing calendars is that the Maya had one and only one calendrical system. Owing to the conclusion engendered by the early documentary evidence, several profound students of the subject have suggested that at least two types of calendar existed when the Spaniards reached Yucatan. That this is a satisfactory explanation of existing data now seems most unlikely.

To sum up, in Momostenango, the Quiche Indians still use the *tzolkin* or 260-day ceremonial year of the ancient Maya. They associate it with a period of nine lunar months and they still employ it for purposes of divination and to date their feasts. Today the names of days used by the highland Maya tribes tend towards unity, but in at least twelve out of twenty cases the Quiche names differ in root from the Yucatecan Maya. In seven out of these twelve divergencies the Quiche names are related in meaning but not in root to the Aztec. Finally, the present Quiche calendar checks with that of Yucatan in the sixteenth century, and it affords backing for both the Spinden and the Thompson day-to-day correlations based on their interpretation of the de Landa typical year.

MUSEUM OF THE AMERICAN INDIAN, HEYE FOUNDATION,
NEW YORK CITY.

---

[4] *Relación de las cosas de Yucatan.* Madrid. 1881.

[5] The Reduction of Mayan dates, *Papers of the Peabody Museum,* vol. VI, no. 4, Cambridge, 1924.

[6] A correlation of the Mayan and European calendars, *Field Museum of Natural History,* Publication 241, Chicago, 1927.

THE CEREMONIAL YEAR AT JACALTENANGO

By Oliver La Farge

THE Third Tulane Expedition, in 1927, lived for some three months in the village of Jacaltenango, center of the Jacalteca-speaking Indians of the Mayance Stock, in the Cuchumatanes Mountains of the Department of Huehuetenango, Guatemala. There we had the good fortune to find an unusual survival of the old Mayan calendrical control of religious worship. In analyzing the material for the full report, which is shortly to be published by Tulane University, the list of ceremonies through the year with their Jacalteca and Christian dates was worked out. As presented here, it begins with the beginning of a Jacalteca year, *7 aH*[1] in March, 1927, and continues through until shortly after the close of that year in March, 1928. The list is based partly on our own observations and statements made to us by the natives, and partly on the communications received since from our correspondent, Señor Don José Maria Hernández C, who noted the different ceremonies as they occurred after our departure.

A certain amount of explanation is necessary. Besides the Christian priest, who comes to the village once or twice a year and the *Maestros de Coro,* trained by him in Catholic ritual, the religion is in the hands of three groups of shamans. Of these the most essential are the soothsayers, *ahbe,* who know the calendar and its uses, and possess the faculty of divination. These shamans acquire their power by divine gift. They wear no insignia of rank. One of them is regularly appointed as consultant with the ''religious administration.'' It was our good luck to make friends with the consulting soothsayer during our stay, and Señor Hernández has long been a personal friend of his successor, the present incumbent.

The ''religious administration'' or ''principales,'' *riñts'ib: al,* consists of three groups, the *watc winaq,* Prayer Makers and Dance Captains. The *watc winaq,* literally ''Good Men,'' are a self-perpetuating body of eight, holding office for life, and acquainted with the calendar, although not possessing the faculty of divination. They are true priests, in that their intercession is necessary to make valid the more important ceremonies. Except at such times, they perform only the religious functions of private individuals. They control to a varying extent the election of other religious and even civil officials.

The Prayer Makers, *tca'-lōm,* from the root *TCA',* ''to pray,'' are elected annually. Their duty is to pray for the village as a whole, and sacrifice for it, just as the ordinary man does for his family. During their term of office they acquire some, uncertain, calendrical knowledge, but are dependent on the consulting soothsayer and the *watc winaq* for guidance.

These two groups of men wear long, black, woolen tunics, open at the sides, striped kerchiefs over their shoulders, and carry staves. Some wear headbands or handkerchiefs, according to taste.

---

[1] In the alphabet used here it may be stated briefly that the vowels are continental in value. *q* is a velar surd, *Q* is roughly its *fortis.* *K'*, *t'*, etc., are *fortes.* H is a soft palatal spirant, *x* a dorsal spirant, *ñ* a dorsal-nasal, equivalent to English *ng,* *V* is a labial glide and *b:* a labial sonant, almost inaudible, followed by a slight exhalation. *c* has the value of English *sh.*

The Dance Captains, called by the Spanish name of *Capitan del Baile,* are active only at the time of the annual dances. They are elected at the same time as the Prayer Makers. The chief captain has charge of the *s-tcam koñop,* "Fore-Point of the Village" or "Nose of the Village," an ancient wooden drum of the type known as *tunkul.*

The *cahampal* ceremony, which is the most sacred rite, consists of the sacrifice of one or two turkeys. The throats are cut, the blood is caught in a bowl, then taken in corn husks to be burned at various places. The flesh is cooked and eaten as a sacrament by the participants. The sacrifice of the boundaries, at which a bull is killed, is considered a *cahampal* by the Indians. A *cahampal* ceremony cannot be performed without the presence of a *watc winaq;* at the most important ones held by the Prayer Makers for the village, the whole body will attend. At the time of the Year Bearer it is held also by private families who have taken a vow to do so. Once the custom has been adopted it must be continued through the following generations of oldest sons, under penalty of the most frightful calamities. A similar ceremony in connection with the Year Bearers is shown in the Codex Dresdensis, pages 25–28.

The calendar consists only of the twenty day-names and thirteen numbers. Months are recognized but not named. There are various refinements in dividing the year (*habil*) which need not concern us here. The day-names, which are entirely unknown to the laymen, stand midway between those of the Tzeltal and of the Quiché. The Year Bearers, although two are Quiché in name, correspond to the Tzeltal.

These names, with their equivalents in the Yucatan calendar, and their values, are as follows:—

The Ceremonial Year at Jacaltenango

Jacalteca		*Yucatan*
imuc	good	imix[1]
ik'	good	ik
watañ	Year Bearer, good	akbal
kana'	bad	kan
ab . ak	medium	chicchan
toc	bad	cimi
tcc	good	manik
k'anil	Chief of the Year Bearers	lamat
mulu'	medium	muluc
elak	bad	oc
bats	bad	chuen
eVup	good	eb
aH	Year Bearer, good	ben
hic	good	ix
tsikin	good	men
tcabin	medium	cib
noh	good	caban
tcinac	Year Bearer, good	eznab
kaq	good	cauac
ahau	very good	ahau

The numbers 1, 4, 8, and 13 are particularly good. There are no bad numbers.

In correlating Jacalteca and Gregorian dates, some confusion arises owing to the fact that the natives count in elapsed time, and begin their days at sunset.

---

[1] In the Yucatan list I have retained the conventional Spanish spelling.

Their statements, moreover, were often incorrect as to the Gregorian calendar, of which they have a very vague idea. Throughout this paper Gregorian days will be considered as beginning at sunset of the day preceding; they are thus counted by the Indians.

THE CEREMONIAL YEAR

March 15, 1927—March 17, 1928

6 eVup year *6 k'anil—10 ahau* year *8 tcinac*

March 15 *6 eVup*	Preparations were completed for the Year Bearer Ceremony. Laymen and Prayer Makers were praying in front of the church and at the crosses all day.
March 16 *7 aH*	Year Bearer entered, beginning the year *7 aH*. The whole village prayed at the church between dusk and midnight. At midnight the Prayer Makers and private families held *cahampal*. Prayer Makers began a period of twenty days ''follow up'' prayer.
April 12 *8 ahau*	A very good day. Prayer Makers held *cahampal* for the animals of the village. At the neighboring village of San Marcos the Deer Dance (*kañal tce*) began in anticipation of the fiesta of San Marcos on April 25th.
April 15–16–17 *12 mulu'–13 elak–1 bats*	Good Friday, Saturday of Glory, Easter Sunday. Christian ceremonial at a height.
April 25 *8 aH*	Prayer Makers begin twenty days prayer preceding rain ceremony. Fiesta of San Marcos.
May 3 *3 imuc*	Day of the Cross. Christian ceremonial by *cofradias.*
May 15 *2 aH*	Fourth recurrence of Year Bearer. Climax of prayer for rain by Prayer Makers and *watc winaq, kañ-bal ñap.* Followed by another twenty days prayer.
June 3 *9 aH*	End of twenty days prayer following *kañ-bal ñap.*
July 30 *4 ahau*	A very good day. *cahampal* in celebration of first fruits of green corn was probably held this day.
August 3 *4 aH*	Began thirteen days prayer by Prayer Makers against a plague of locusts.
August 16 *4 toc*	End of prayer against locusts.
August 23 *11 aH*	Began thirty days prayer in advance of the *cahampal* of the boundaries.
September 19 *12 ahau*	The feast of the new beans or ''flute tamales,'' *pitc cuheVu,* was probably held on this day. Everybody made and exchanged tamales of beans. A clay flute was played while they were cooking and then broken into the pot.
Sept. 22 *2 watañ*	*cahampal* of the boundaries, in which a bull is sacrificed. All ceremonial officials, past and present, take part. Owing to its expense, this ceremony had been omitted for several years. The plague of locusts was laid to this.
Oct. 31–Nov. 1, *2 ik'* and *3 watañ*	Hallow E'en and All Soul's Day.
November 4 *4 kana'*	Eighty days before New Year's day. Although a bad day, a grand procession was held followed by election of ceremonial officials for the next year.
Nov. 30 *7 aH*	Close of the Year Bearer's *tzolkin.* Prayer Makers held a *cahampal* of thanks, *kañ-bal gracia,* ''to ask grace.'' Substitutes were chosen for those who could not accept elected offices.
December 11 *4 watañ*	Newly elected and retiring Prayer Makers began twenty days prayer anticipatory of taking office.
Dec. 25 *5 noh*	Christmas Day.
January 1, 1928, *12 kana'*	New Prayer Makers took office with attendant celebrations. Both sets of Prayer Makers begin twenty days prayer following ceremony.
January 6 *4 mulu'*	As the new religious administration was still incomplete, another election was held.
Jan. 17 *2 ahau*	The new Prayer Makers should have held the *cahampal* ''to carry the year,'' *iq-bal habil,* insuring a successful term of office, but did not as their number was incomplete.
Jan. 20 *5 watañ*	Ended twenty days prayer.
Jan. 31 *3 hic*	Began fiesta of Candelaria, patron of Jacaltenango. Cortés Dance.
February 2 *5 tcabin*	Fiesta of Candelaria. The drum *s-tcam koñop* was brought out.
February 5 *9 ahau*	Retiring Prayer Makers terminated their office with the *cahampal* of *y-ĕlpal koñop,* ''farewell to the village.''

February 9	*12 watañ*	Ended fiesta of Candelaria.
Feb. 19	*9 aH*	Beginning of last month of the year *7 aH.* The souls of all little children depart to visit the Year Bearer, requiring 20 days for the round trip.
Feb. 21–22,	*11 tcaƀin, 12 noh*	Carnival. Christian and secular festival. Parodies of the serious dances were performed.
Feb. 24	*1 tcinac*	Began twenty days prayer in anticipation of the Year Bearer. The village was in great danger, as there were still several Prayer Makers lacking. After a hasty conference, the number was completed.
Feb. 26	*3 ahau*	Retiring Prayer Makers at San Marcos held their *y-ĕlpal ꝁoñop cahampal,* as it was not possible for them all to be present on the *ahau* preceding.
March 10	*3 aH*	End of the year. Souls of little children returned. House altars are decorated, the children are feasted and brought to pray at the church. Souls of grown people departed to visit the Year Bearer, requiring only five days to make the trip.
March 15	*8 tcinac*	Entry of Year Bearer, begins year *8 tcinac.* Ceremonies as before.
March 17	*10 ahau*	The delayed *cahampal* of *iq-ƀal ħaƀil* was performed.

It will be seen that *ahau* exerts its influence throughout the year, with little respect to the occurrence of other controlling dates. The ceremony at the beginning of a dance is very impressive, and probably nearly as important as the actual fiesta day which it anticipates. It is almost purely non-Christian. The beginning of the dance for the fiesta of San Marcos was advanced thirteen days to obtain the advantages of the combination *8 ahau,* which is the strongest day and number pair possible. Of course, this worked out particularly well; thirteen is a lucky number, and brought them to the fiesta itself on *8 aH,* in an *aH* year. The recurrence of *8 ahau* on December 28, when the officials were preoccupied with the coming ceremonies of taking office, seems to have been ignored. The fiesta of Candelaria began on *3 hic,* January 31st, without regard to a *2 ahau* on the 16th.

The different soothsayers from whom we received statements were agreed that *cahampal* should be held on an *ahau* day, particularly *4* and *8,* always excepting those of the Year Bearer and its return. Actually, four *cahampal's* and some minor ceremonies were held on *ahau* days, while one, the spectacular ceremony of the boundaries, which is of a slightly different nature, fell on *2 watañ.*

In regard to the other important days of the year under discussion, it appears that their importance lies either in the anticipation or retrospect of certain dates automatically determined. There is a strong tendency to correlate ceremonies with twenty-day periods, and hence the recurrence of days connected with a major event. However, as will be seen, liberties are taken with this correlation to avoid an intrinsically bad day and take advantage of a good one.

aH, the Year Bearer, begins to control the ceremonies automatically with the opening of the twenty-day prayer before its entry as Year Bearer. From then until the end of August, all non-Christian ceremonies except two *cahampals* on *ahau,* began on an *aH* day, and all but one end on one. The prayer against the plague of locusts was held for only thirteen days, the sacred number evidently offsetting any disadvantage from ending on *4 toc,* a bad day, a day for calumnies and intrigues. *11 aH,* August 23, marked the beginning of the prayer for the ceremony of the boundaries, and with this the influence of *aH* seems to have ended save for the unalterable close of its *tzolkin* on November thirtieth, and its automatic occurrence twenty-five and five days before the new Year Bearer, when it automatically dates the departure of the souls of the children and the grown people.

In its place, *watañ* and *kana'* appear. *kana'* is a very bad day, ''for ill will, it has ill will.'' But it was the equivalent of our New Year's Day in this particular year and apparently for this reason the important first election of ceremonial officials, with its procession and public ceremonies, was held on it, four months ahead of inauguration (eighty days). However, as previously said, there is a tendency to avoid a bad day. *watañ,* a Year Bearer and hence very good, was December thirty-first (that is, sunset December thirtieth to sunset on the thirty-first). It could not by any stretch be considered as the true date of the ceremonies of taking office, but, except for the date of the first elections, it replaced *kana'* even in determining the prayers before and after inauguration, evidently usurping the functions of the actual Year Bearer of that year. Beginning with the sacrifice of the boundaries, four ceremonies during the remainder of the year began or ended, or both, on *watañ.* New Year's day is in no sense regarded as Year Bearer, it is called *hĕlelal,* or *babĕl tsaiik akʿ habil,* ''first day (of the) young year,'' not *iqum habil,* Year Bearer. But the importance of the date of accession to and retirement from office would obviously affect the officials after the election.

The date of the ceremony of the boundaries is unusual. The prayer before it beginning on *11 aH,* one would expect it to continue the usual twenty days to *5 aH,* and not thirty, a number without significance. Very probably, in view of the elaborate preparations required, twenty days did not suffice and the soothsayer accordingly selected the next important day, *2 watañ.*

1928 was a leap year. Accordingly, the Year Bearer moved forward one day, from March sixteenth to March fifteenth. It is significant, I think, that two other *tzolkins* noted in 1928 show an exact agreement. Mr. Blom, in charge of the John Geddings Gray Memorial Expedition sent out by this University, found a settlement of Indians from Santa Eulalia, a town near Jacaltenango, just over the Mexican border at Zapotal. The parent town has much the same religious system as Jacaltenango. From the information that he obtained there, it appears that *8 tcinac* coming on March fifteenth replaced *7 beĕn.* Doctor S. K. Lothrop kindly sent me a copy of the twenty-day names and thirteen numbers for March–April, 1928, obtained by him from the Quiche Indians of Momostenango, which he has also presented at this Congress. These do not have the year-bearer, but the day names and numbers, and their dates, agree exactly with those of Jacaltenango.

While the material presented here does not tell us much that is new about the old Mayan ritual, it gives a *living* picture which should, after further study, help us to understand the attitude of mind and the concepts underlying the ancient procedure.

Tulane University,
New Orleans, Louisiana.

LOS BAILES DE CULEBRA ENTRE LOS INDIOS QUICHÉS EN GUATEMALA

POR FRANZ TERMER

LA población indígena de Guatemala conserva todavia en nuestros tiempos, entre la mayoría de sus costumbres antiguas, la de los bailes celebrados en los dias festivos del año. Sin exegeración se puede decir que en todo pueblo ó aldea con población indígena las fiestas de los santos son celebradas con bailes. Los siglos pasados, despues de la introducción del cristianismo entre los indios, no han alterado su manera de bailar igual a la de sus antepasados en los tiempos del paganismo, conservando los mismos ritmos de música, las mismas gesticulaciónes y movimientos del cuerpo y de los miembros, y cambiando únicamente el significado.

En la época anterior a la conquista los bailes tuvieron un carácter pantomímico y dramático, pero ahora estan mezclados de tal manera que los bailes actuales son un conjunto de recitaciones y pantomimas en los mismos actos. Resultó éste cambio de la conversión de los naturales a la fé cristiana. Los frailes y curas introdujeron actos de la historia castellana ó de la conquista con textos más ó menos sencillos y una glorificación de la iglesia en lugar de dramas antiguos basados en materias mitológicas, de la adoración de las deidades paganas, y unidos con ritos absurdos y estraños del antiguo culto, resultando asi que hoy se pueden ver en las fiestas unos bailes puramente cristianos. Pero con atención a la imaginación sencilla de los inditos, se vé que los eclesiásticos dejaron existir otra clase de bailes con asuntos tomados de la naturaleza que reflejan mejor las costumbres pasadas, aunque los textos sean tambien cristianzados.

Hay, en fin, otra clase de bailes que tiene un carácter chistoso ó bufo; y si denominamos a la primera y a la segunda "Bailes dramáticos", tenemos que llamar a la tercera "Comedia ó Bufonda".

Formando una lista de los bailes todavia existentes en Guatemala ó por lo menos celebrados hasta hace poco, hallamos los siguientes:—

I. Bailes dramaticos relativos a asuntos históricos y eclesiásticos:—

1. Baile del Tun ó Xahoh Tun, conocido tambien como "Rabinal Achí" apuntado por Brasseur de Bourbourg. Hasta ahora no he encontrado ni una vez durante mis viajes en Guatemala en trés años, éste baile; sin embargo S. K. Lothrop cita un baile de Tun en su estudio sobre "*A Note on Indian Ceremonies in Guatemala,*"[1] anotando su existencia en los pueblos de San Juan Ixcoy, Nebaj, Santo Tomas Chichicastenango, Chajul y Cotzal.
2. Baile de la Conquista.
3. Baile de Cortés
4. Baile de los Moros
5. Baile de los Diablos
6. Baile de las Piedras Preciosas

---

[1] *Indian Notes, Museum of the American Indian, Heye Foundation,* vol. 4, no. 1, pp. 68–81, 1927.

De éstos son la "Conquista" y el "Cortés," y los "Moros" muy frecuentemente celebrados y estimados entre la gente indígena.

II. Bailes dramaticos relativos a asuntos de la naturaleza:—

1. Baile del Venado
2. Baile de los Animales y del Tirador
3. Baile del Danta
4. Baile del Mono, ya mencionado en el *Popol Vuh* como "Hunahpu C'oy"
5. Baile del Volador

III. Bailes bufos o comedias:—

1. Baile del Toro ó Torito
2. Baile de los Chiquimultecos
3. Baile de los Mudos
4. Baile de la Culebra
5. Baile de los Gracejos.

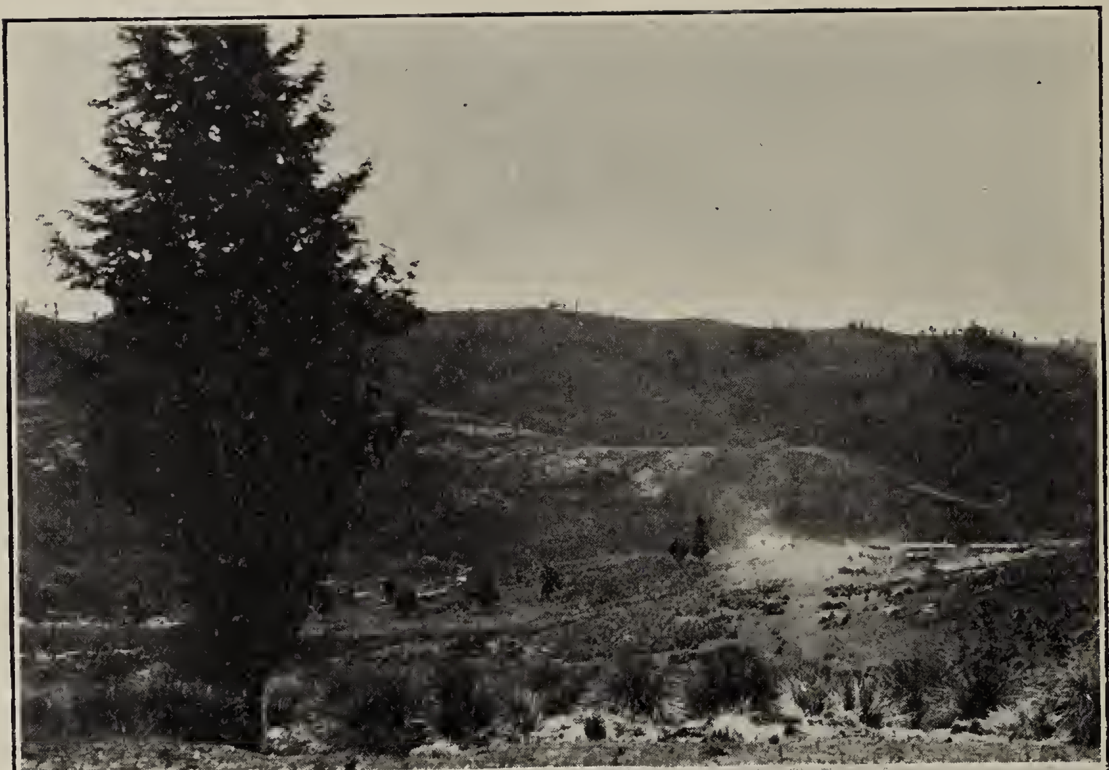
De los últimos, el baile de la culebra y de los gracejos son mezclados en uno solo muchas veces, como se verá despues. Aunque ésta lista no es completa, se comprueba que hay todavia una cantidad bastante grande de bailes distintos en Guatemala.

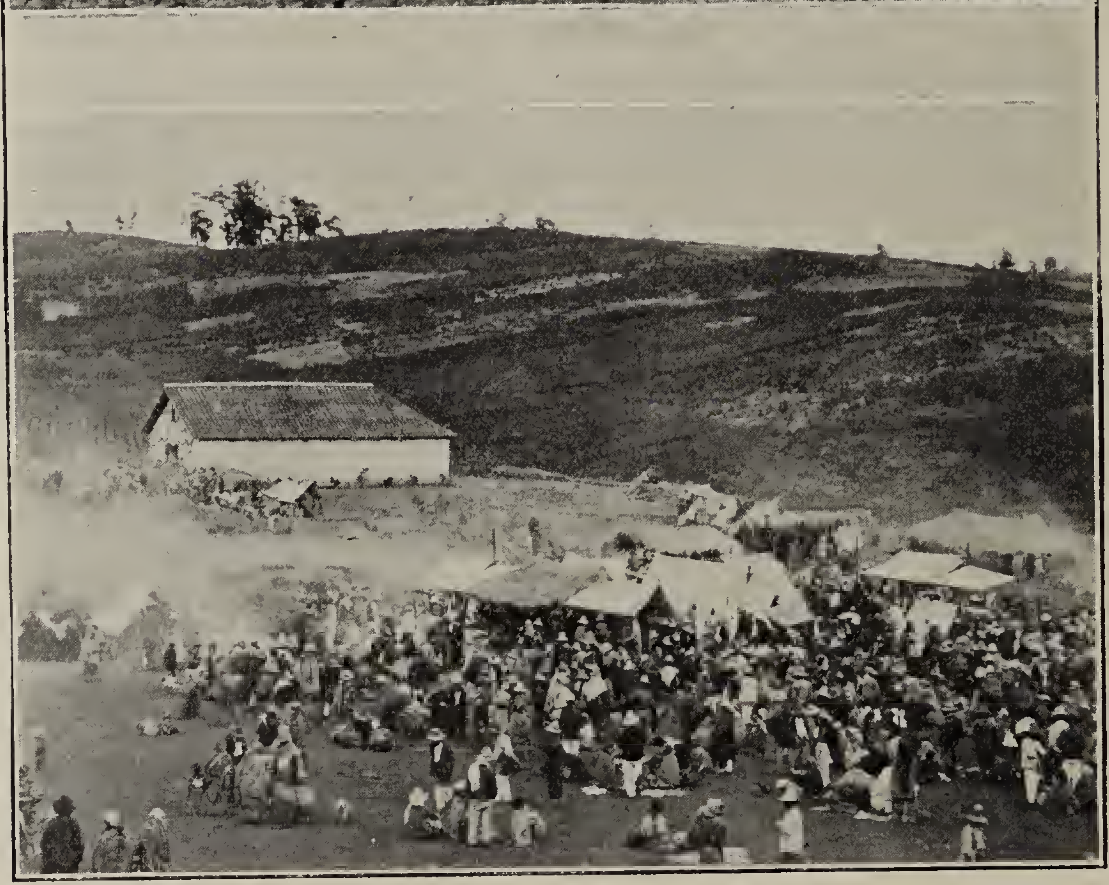
Estos bailes están más ó menos bien detallados por Brasseur de Bourbourg, Otto Stoll, y Carlos Sapper. En mis viajes en la República de Guatemala tuve varias veces ocasión de asistir a las fiestas en varios pueblos, encontrando casi siempre los bailes de la Conquiesta, del Toro y del Venado, ya menos de "Cortés", de los Diablos y del Mono, y pude observar que unas veces habia una decadencia marcada, sea que los representantes declamarón solo una parte del texto, sea que ya faltaban los trajes y adornos. Esto último se debe a los precios bastante altos que los alquiladores de vestidos cobran por ellos, y que las cofradias pobres no pueden pagar, pero siempre se observa el interés de la gente por los bailes, a los cuales asisten con cierta religiosidad.

Cuando pasé por el departamento del Quiché en el occidente de Guatemala, donde se agrupa todavia una población india muy densa, quedé sorprendido de encontrar un baile sobre el cual ninguna vez habia hallado noticias en las obras procedentes sobre Guatemala. Llámanlo "Baile de Culebra" ó "Baile de los Gracejos", ó tambien en lengua Quiché "Patzáj", que quiere decir "El Doblar del Maiz". Este hecho de que aún su nombre especial en lengua indígena provocó en tal modo mi atención que resolví verlo personalmente. Tres veces tuve despues la oportunidad para ésto: en la ciudad de Santa Cruz Quiché, en la aldea de San Bartolo Aguas Calientes, y en Pologuá que es un paraje rural, un plano en los Altos, a 2700 metros sobre el nivel del mar en el occidente de Momostenango.

Mas tarde oí que tambien se le conoce en otros sitios rurales y parajes de Momostenango, en la Villa de Cubulco, en la ciudad de Rabinal, en los caseríos de Chichicastenango, de Totonicapán, San Cristobal Totonicapán, San Francisco el Alto, San José Chiquilajá, Olintepeque, La Esperanza: todos éstos lugares en los alrededores de Quezaltenango, de modo que está acostumbrado éste baile en la region de los Indios Quichés.

En otras partes de la República, por ejemplo en la región de los Kakchiqueles existe el baile de los Gracejos, pero parece que allí le dan menos importancia, ó ya está muy decaido. Tambien este fuera de celebridad en el oriente del Quiché





1—El altiplano de Pologuá, municipio de Momostenango. Termer fot.

2—La capilla de San Antonio en Pologuá en el dia de la fiesta. Termer fot.

encontrándose muy mezclado con elementos modernos ajenos al verdadero significado de dicho baile, diferenciéndose por esto mucho del de las regiónes abajo mencionadas. Por ejemplo, los Rabinales usan ya una culebra artificial de papel, y lo mismo me fué referido del territorio Kakchiquel de Chimaltenango. Igualmente en Santa Cruz Quiché estaba bastante decaido, lo cual no tiene nada de sorprendente, porque es una ciudad bien grande y con una población en su mayor parte ladina, en donde los naturales tienen cierto temor de manifestar publicamente sus costumbres.

Ahora, la representación de éste baile de Patzáj está descrita conforme a mis observaciónes. El número de los bailadores que todos eran hombres subió en Santa Cruz Quiché a veinte personas, en San Bartolo y Pologuá a doce y a trece, pero en otros lugares bailan hasta treinta personas. Todos venian vestidos de varones, solo uno de mujer, es decir con huipil, enagua y faja, pero con sombrero de fieltro de hombre y un velo de seda en la cara. Una parte de los hombres tuvo vestidos habituales, es decir pantalones, camisas y chaquetas con sombreros de paja ó de fieltro; la otra vestía el traje de Santo Tomás Chichicastenango y de Chiché, pueblos vecinos a Santa Cruz Quiché y solo uno vistió como sololateco. Todos lleváron máscaras cómicas de color oscuro; dos máscaras representáron unos viejecitos con anteojos colorados modernos, otra máscara caracterizó a un Europeo con una piel de carnero en la cabeza. En la mano izquierda cada uno conducia un chinchin, y en la derecha un chicote ó látigo como los usan los pastores en los Altos. Solo la mujer llevaba en su mano derecha un paño de seda. A un lado de los danzantes hallábase la marimba del tipo con tecomates, y cerca de ella una tinaja algo misteriosa cubierta con un paño. Los bailadores se agrupaban en dos filas que efectuaron pasos una contra la otra acercándose y recogiéndose. Describiéron vueltas en paso de baile conforme a los ritmos de la música con fuertes gritos. Entonces el Europeo bailó con la mujer, a la cual los viejecitos galanteaban sin ser rechazados, é intentaban estos robarla al Europeo, pero éste intervino llevandola otra vez consigo. Aparte de éstas escenas bufas del robo de la mujer los otros participantes peleaban con el indio de Sololá que fué golpeado y maltratado por los Maxeños (indios de Santo Tómas Chichicastenango), demostración ésta probablemente de rivalidades antiguas entre las tribus de los Quichés y los Kakchiqueles. Así continuó el baile por un largo tiempo y despues se pusieron los bailadores nuevamente en dos filas como al principio. Despues de una pausa corta uno de ellos se acercó a la tinaja ya mencionada, alejó el paño sobrepuesto y derramó su contenido. Salió una culebra viva de media vara de largo que recogió el muchacho immediatamente del suelo agarrándola del cuello con la mano derecha. Hizo unas vueltas, mientras que los compañeros bailaban y aclamaban desde sus lugares, y por último metióla dentro de su camisa, donde resbaló sobre la piel de su cuerpo hasta caer al suelo. Despues otros tomaban la serpiente repitiéndose la misma escena, con la cual el baile llegó a su fin. La relación recitada en Castellano estuvo improvisada con chistes sobre la mujer, el Europeo y el sololateco.

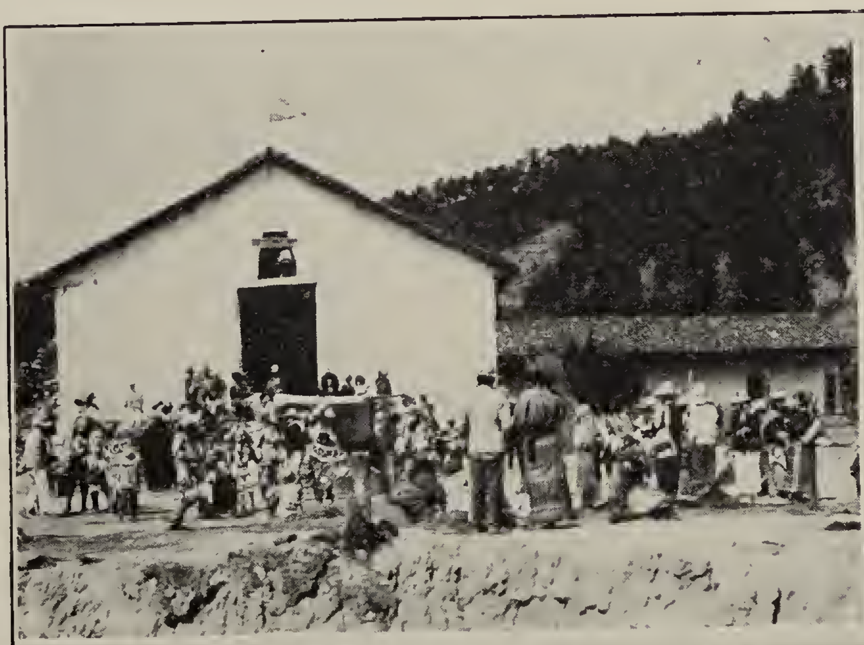
En San Bartolo Aguas Calientes y en Pologuá el baile tuvo un caracter mas original. Los bailadores usaban trajes habituales, pero desgarrados como de gente pobre. Sus máscaras de color negro representaban caras cómicas, y en vez de sombreros llevaban una piel de carnero para cubrirse la cabeza. En las manos tenian chinchines y chicotes. Entre ellos hubo un viejo en traje muy feo y con la piel de una ardilla en sus espaldas. Uno tuvo la máscara del Europeo, otro se vistió como mujer pero con sombrero de hombre y el velo en la cara, llevando en una mano el chinchin, en la otra un chicote pequeño y un paño de seda. Al lado de la marimba con tecomates se encontraba la tinaja con las culebras.

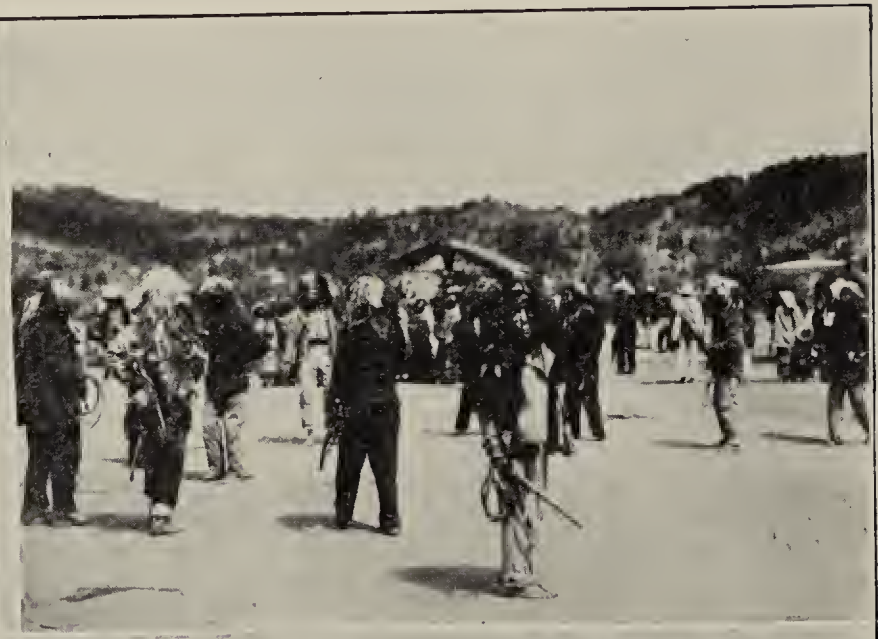
El baile comenzó con mucho ruido de gritos y silbidos de los manifestantes. Las dos filas se unieron en una dando pasos de baile ó en carrera sobre la plaza, a la vez que los muchachos restallaban sus látigos.

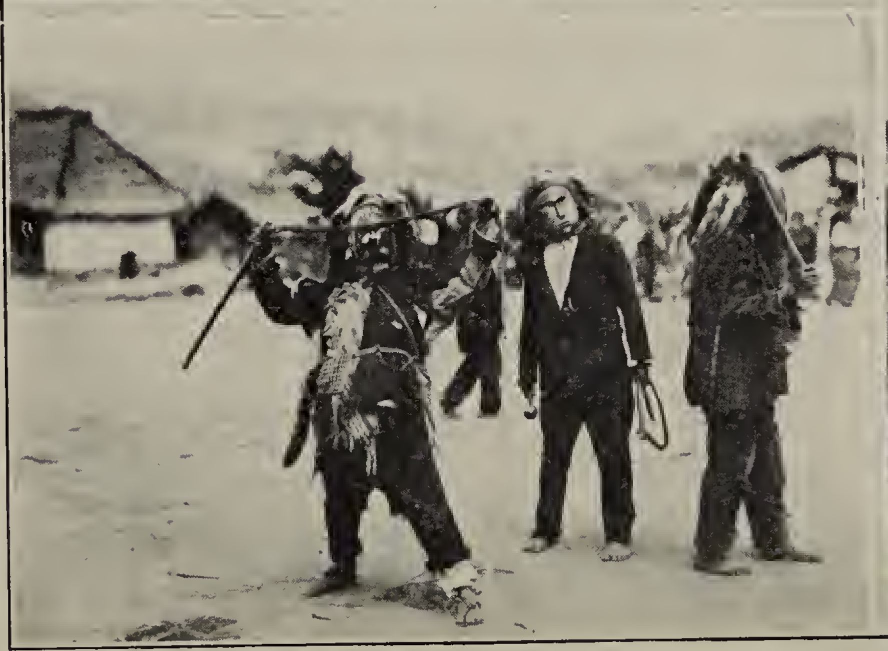
Siguieron las mismas escenas del robo de la mujer al Europeo y otras burlas acompañadas de chistes indecorosos é improvisaciónes agresivas, todos dichos en lengua Quiché, que como queda ya dicho, durante el baile solamente se hablaba en lengua. Aparte de éstas escenas que divertieron mucho a la multitud de los espectadores hubo otras de obscenidades. Cada bailador robó a la mujer y se posesionó de ella, fea escena acompañada de manipulaciónes en extremo obscenas efectuadas por las demás participantes. Enfin todo el baile se transformó en una orgía sexual pantomímica, y despues se agrupaban las dos filas una contra la otra excepto el Europeo y la mujer que se pusieron al lado. Vino un acto de verdadera flagelación, en la cual una y otra fila se azotaban alternativamente. Los golpes eran de tal caracter que caian en cualquier parte del cuerpo, tanto en las máscaras como en las cabezas. Enseguida se echaban todos un rato en el suelo como muertos, hasta que uno se levantó subitamente y sacó unas tres culebras de la tinaja. Entonces los demás bailadores las tomaban introduciendóselas en las camisas donde resbalaban por todo el cuerpo de los individuos, hasta tocar el suelo. Igualmente la mujer se puso una culebra en el huipil, mientras los otras y sobre todo el viejo hicieron gestos obscenos enfrente de ella. Despues de esto las culebras fueron puestas de nuevo en la tinaja, concluyendo el baile con esta escena.

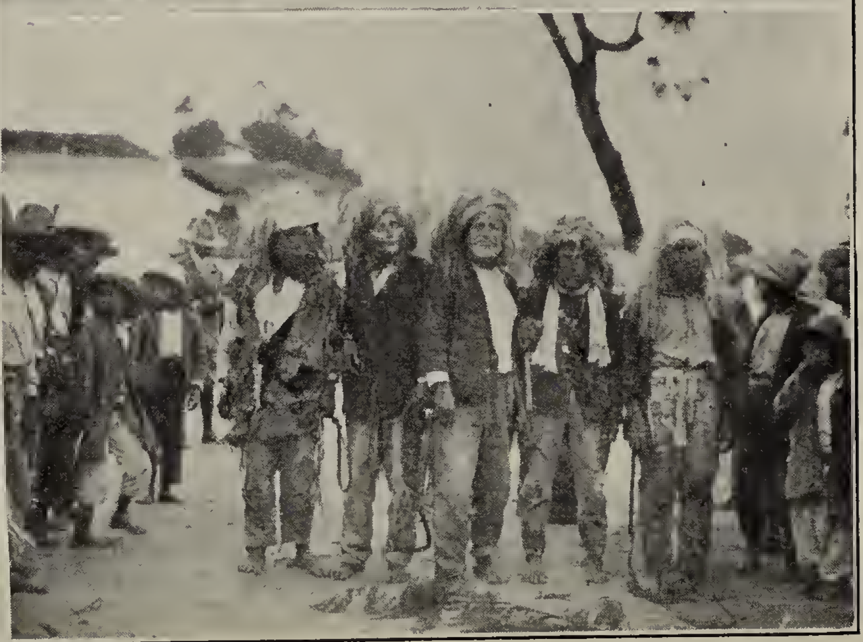
Naturalmente las repiticiones del baile toman un carácter mas ó menos fogoso según el estado de ebriedad de los muchachos. En otros lugares, donde se conoce este baile, las escenas son en su mayor parte análogas. En unos cantones rurales cerca de Momostenango los componentes cuelgan frutas de diferentes clases sobre su cuerpo es cabalmente de una clase que se llama ''chiche,'' y se azotan con chichicastes en vez de látigos.

Todavía mas original es el baile en los cantones de Totonicapan, donde es celebrado solamente en el monte ó en unos ranchos repartidos en la sierra. Dicen que antes tambien existía el baile en la ciudad de Totonicapan, pero que fué prohibido. Allí los muchachos bailadores se reunen cierto tiempo antes de la fiesta con el brujo ó zahorin y hacen con el una costumbre para ser protegidos de enfermedades y para no desmayarse en el baile. Tres dias antes de la fiesta los hombres más valientes junto con el zahorín van hacia el monte, donde el brujo hace otra costumbre por medio de la cual indica a los hombres, endonde pueden hallar las culebras, diciéndoles: ''Andad en esta dirección; buscad bajo esta piedra ó al pié de este palo, etc.''—Veinticuatro horas despues los muchachos van a buscar los reptiles los que efectivamente son encontrados en el punto indicado. Cualquier clase de serpientes se coge, sea el mazacuate (tolopóm), ó el coral, ó el cantíl. Si las culebras son venenosas, se les cocen la boca con un hilo. Los animales son introducidos en una jícara cubierta con un paño y asi llevados a la casa del prepósito del baile, quien mas tarde representa el papel de la mujer.









1—El baile de la conquista en S. Bartolo Aguas Calientes. Municipio de Momostenango. Termer fot.
2—Escena del baile de los gracejos. Termer fot.
3—Máscuras del baile de los gracejos. Termer fot.
4—Los gracejos en Momostenango. Lenz fot.

Llegado el dia de la fiesta todos los bailadores se reunen en la casa del jefe y de allí van juntos al lugar determinado para el baile en el monte. La mujer conduce la tinaja con los reptiles en el brazo. El baile comienza con la ausencia de la mujer que es llevada mas tarde en medio de los otros. Tiene que bailar con cada muchacho, siempre llevando la tinaja. Entonces sacan los reptiles, y cada uno danza con ellos de la manera ya descrita, metiéndolos en su camisa. Mientras tanto gritan todos fuertemente moviendo sus chinchines para que salga la culebra del pantalón. Al mismo tiempo llaman a la culebra: ''Ay que bonita la fortuna.'' Son las únicas palabras en castellano, en todo el acto, lo demás es hablado solamente en Quiché. Por último todos hacen un círculo y terminan azotándose mutuamente con los látigos. Despues de la fiesta llevan la jícara ó tinaja con las serpientes al monte y las dejan escapar.

Gracias a la amabilidad de un amigo mio en Momostenango, señor Don Abel de Leon, recibí unos datos especiales sobre los gracejos en los alrededores de Momostenango que siguen aqui. Este buen conecedor de las costumbres indianas me escribió:—

''El baile de la culebra, ó sea de gracejos, según se ve no es mas que una diversion para los aborígines guatemaltecos. Parece de historia y sus procedimientos son sin regla y mas inmorales que otra cosa. Durante su período de un dia representa escenas ridiculizadoras del hogar.

''Consta de varios indivíduos vestidos de hombres, uno vestido de mujer y uno de toro; es decir con máscara que tiene cuernos y un cuero que le cubre la parte trasera con cola. Todos los hombres tienen máscaras a cuales mas feas é imperfectas y con penachos de cerda blanca y larga. La mujer no tiene máscara, sino un pañuelo de seda rojo le cubre la cara. Todos tienen chinchines pequeños y perforados en toda su redondez los cuales hacen un ruido particular al moverlos. Solo el toro no usa chinchin. La mujer lleva huipil rojo, corte rayado de azul oscuro y blanco y un sombrero que le sirve para detenerse el pañuelo de la cara. La mujer lleva consigo una jícara como de diez a doce centímetros de largo por ocho de circunferencia en su mayor grueso, cuyos extremos son mas reducidos.

''Por sus movimientos, ó caricias que hacen hácia la mujer se comprende que es un baile sexual. Pero tiene un momento en que la mujer saca de la jícara la culebra y la pone en el suelo; todos los gracejos la rodean y le suenan cerca los chinchines. La culebra levanta la cabeza y parte del cuerpo, saca la lengua y se dirige ya de un lado, ya de otro. Luego la toma cualquiera de los bailadores y se la mete entre el cuello de la camisa y el cuerpo. Ya le aparece en cualquiera de las mangas de la chaqueta, ó en las piernas del pantalon. Cuando la toman del cuello, se les arrolla el cuerpo en el brazo. Entre la jícara echan un pedazo de cebo de res, y eso le sirve de alimentacion.

''Hay un momento en que cada uno de los gracejos baila con la mujer, y este está listo con el látigo ó chicote que todos tienen, y cualquiera de los otros que se atreva a pasar en medio, sufre un latigazo que el bailador le infiere. A veces, se aconsejan dos ó tres. Dos sostienen fuertemente al bailador mientras uno abraza a la mujer y comienza a hacer los movimientos del cóito así parados. Cuando se disputan a la mujer entre dos, se infieren repetidos y fuertes latigazos, y esto da lugar a gritos y risotadas entre los bailadores. Todos hablan lo que se les ocurre, y cada final de lo que hablan, gritan y se rien.

''Cuando se llega la hora de torear, aparece el indivíduo que se disfraza como tal toro. Embiste a cornadas a cuantos se le ponen delante, levanta el cuero que le cubre la parte trasera, y lo echa hácia delante sobre su cabeza. Entonces los que se ven perseguidos por él, le infieren latigazos que van dirijidos al cuero, y suenan los golpes, oyendose a cierta distancia.

''La marimba consta de treinticuatro tablas, y le dan mas sonido unas jícaras colocadas debajo de cada tabla, cuyo largo y grueso van en relacion al largo de las tablas. El largo mayor es de treinta centímetros, y el mínimo de seis. Todas las jícaras estan perforadas por la parte inferior, a un lado y en cada agujero tienen colocada una tela fina que hace vibrar los sonidos de las tablas. Las piezas que ejecuta cada vez el marimbista (pues en uno solo) son melancólicas y de una monotonia excepcional.

''Siempre que el baile va en procesion por las calles, va el toro corneando a los gracejos y levantándose el cuero. Ellos le suenan el cuero a látigazos. Suelen caerse y golpearse, pero esto provoca los gritos y risas de los que bailan.

''En los demas actos del baile no aparece el toro.''

Si ahora examinamos el baile de culebra por su contenido y objeto, vemos que en su fondo es un baile erótico unido a escenas bufas y burlonas. Con esto y principalmente por la culebra manifiesta su caracter y origen antiguo. Es seguro que se funda en los antiguos ritos y cultos de fertilidad. Ya su nombre en lengua ''El Doblar del Maiz'' comprueba su relacion con cultos campestres. Parecen, pues, ante nuestros ojos las escenas communicadas de los antiguos autores, cuando los indios mexicanos y mayas celebraban sus fiestas de la fertilidad con un ritual muy obsceno y erótico delante de los ídolos, pidiendo así prosperidad y crecimiento de sus campos y milpas y de todo el género humano. Ya en aquellos siglos la culebra, personificación de la tierra y humedad, simbolizaba por ésto la fructificación en general, y aparece muchas veces al lado de deidades de la exuberancia. No es sola una casualidad que hallamos la culebra hoy en un baile de indios que tiene vínculos con el cultivo del maiz como demuestra su nombre indígena.

Si buscamos en una anotación sobre éstos bailes en el pasado, hallámosla entre los antiguos Mexicanos que celebraban tales fiestas en el ''Atamalqualiztli'' que tuvo lugar solamente cada octavo año y se refería tambien al cultivo del maiz. Por el sumo interés que exige ésta relación sigue aqui su transcripción en castellano según la traducción alemana del texto original azteca de Sahagun por Eduardo Seler.

La Fiesta Del Atamalqualiztli

Cada ocho años fué celebrada la fiesta del Atamalqualiztli que quiere decir ''Comida de tamalitos de agua.'' Unas veces se efectuaba en el Quecholli, otras en el Tepeilhuitl, ayunándose durante siete dias. Comían solo tamales de agua y maiz removido en éste liquido, sin sal, sin chile, sin sosa, sin cal cauterizada; solamente comian en la mañana del dia, y si alguno no ayunaba, era castigado, en caso que fuera descubierto éste delito.

Tenian mucho miedo de éste Atamalqualiztli y quien *no* lo celebraba, se enfermaba con malos contagiosos de la piel, según decían, aunque no se sabía ni conocia su pecado publicamente.

Cuando venia el dia de la fiesta, lo llamaban ''Se gana fortuna,'' y ''Se cambian en conchas de caracoles marinos''; y por el hecho de bailar todos los dioses en ésta fiesta, llamábanla ''Baile de los dioses.'' Todos los animales entraban en escena: colibris, mariposas, abejas, moscas, pájaros, escarabajos. En forma de éstos animales se presentaban los hombres bailando. Otros entraban con máscara que representaba un cordel con tamalitos de frutas, de frutas del Cochiztzapotl (*Casimiroa edulis*), y de un cordel con carne de guajolote, y enfrente de ellos estaba la granja del maiz, llena de tamalitos de frutas.

Muchos otros se presentaban con máscara de gente pobre, de vendedores de verduras y de leña; é igualmente aparecía allí uno enmascarado de leproso y otros de pájaros, viniendo transformados en buhos y tecolotes, y tambien en otros aves. Tlaloc, el representante del dios de las lluvias, estaba sentado enfrente de un pozo lleno de culebras y ranas.

Los Mazatecas que llaman así tragaban allí las culebras vivientes, una cada uno é igualmente las ranas. Las agarraban con la boca y no con la mano. Hincaban sus dientes en ellas cogiéndolas en el agua enfrente de Tlaloc, y los Mazatecas comían las serpientes con las cuales bailaban. Quien primero acababa con su respectiva culebra que sujetaba en la boca gritaba y llamaba ''papa,'' y andaba rondando el templo.

Los que habian tragado las culebras, recibian regalos, bailandose dos dias y rondando el segundo dia del baile despues de la caida del sol; cuatro veces hacían ésto, y despues comian los tamalitos de frutas que llenaban la granja del Maiz. Toda la gente llevábalos consigo, cuando la fiesta terminaba.

Los ancianos lloraban mucho pensando que quizás no vivirían mas en los próximos años. Decian: ''Enfrente de quien sucederá la fiesta la próxima vez?''

La fiesta era celebrada por el siguiente motivo: Decian, con ésto descansa el maiz despues de ocho años. Pórque nosotros lo hemos atormentado mucho comiéndolo, mezclándolo con chile, sal, sosa y cal, matándolo por decir así. Con ésto lo hacemos vivo, Se dice que el maiz rejuvenece con la manera, en que se celebraba la fiesta.

Terminada la fiesta, el dia siguiente llamaban ''El hundirse del pan en la salsa,'' por haber acabado con el ayuno a favor del maiz.

Resultan comparaciones muy intersantes é importantes con el baile de los Quichés y que son las siguientes:—

que es un baile relativo al cultivo del maiz, una fiesta para obtener fertilidad y riquezas. Los Mexicanos la llamaban tambien la fiesta ''Se gana fortuna,'' y hoy dia gritan los bailantes ''Ay que bonita la fortuna,''

y en el pasado como hoy los bailadores se visten a la manera de gente pobre, colgando frutas en su cuerpo, como los Mexicanos llevaban cordeles de frutas; que los Quichés tienen miedo de enfermarse no siguiendo antes una costumbre, y los Mexicanos creian contagiarse con enfermedades de la piel, si no celebraban la fiesta; que en fin, los Mexicanos tuviéron máscaras de diferentes clases de animales, quedando todavia la ardilla y unas veces el gato de monte que siempre es llevado por un bailador.

En Mexico los bailadores se comian los reptiles para incorporarse así las cualidades de buen augurio, y los Quichés modernos incorporan esas mismas cualidades, metiéndose el reptil simbolicamente en su pecho.

Estas pruebas parecen suficientes para decidir la cuestion del orígen del baile de culebra en Guatemala, que es venido de Mexico á éstas regiones é introducido en los Altos por los mismos elementos nahuatlecos, cuyas inmigraciónes en la parte septentrional de la América Central son referidas en las crónicas y comprobadas tambien por la arqueología de las regiónes Quichés y Kakchiqueles. Estas inmigraciónes influyeron bastante a la cultura más ó menos primitiva de las tribus mayas altenses, llevando no solamente objetos de la cultura material, sino tambien de la religión y del culto, como lo prueban el *Popol Vuh* y los *Anales Kakchiqueles.*—Sumamente interesante é importante es por todo ésto el baile de la culebra, por el cual tenemos un resíduo más de la época mexicana en Guatemala, todavia en uso en esta República.

Universität Wurzburg.

CUNA INDIAN RELIGION

By Erland Nordenskiöld

DURING the year 1927, accompanied by my wife, Doctor Linné, and my son, Eric, I traveled in the Isthmus of Panama, and there, among others, visited the Chocó and the Cuna Indians.[1] It is of the religion of the latter that I am here going to speak.

The Cuna, also known as the San Blas, or Tule, Indians, some years ago were the cause of considerable sensation when in the press throughout the world notices appeared of the white Indians found among them. Some of these white Indians were even brought to the United States by Mr. Marsh. That these individuals were albinos had already been recognized by the Englishman, Wafer, who, at the end of the seventeenth century lived among the Cuna for a considerable time. Valuable scientific investigation of these albinos has been carried out by the distinguished American biologist, Doctor Harris. What he, however, omitted to explain is that among the Cuna nearly 0.7 per cent of the population are albinos, which constitutes a proportion exceeding that found in any other tribe of Indians.

But the Cuna, apart from the question of their albinos, are a tribe whose study offers many points of interest, since for a period of four hundred years they have been in contact with whites of several categories without having fallen into moral or political decadence. Ethically, the Cuna stand so high, that in my travels through Central and South America I have never, neither among whites nor colored peoples, seen anything to equal them in this respect. To this day, a large proportion of the Cuna are entirely independent politically, and do not acquiesce in any suzerainty on the part of the Republic of Panama. Their latest revolt was as recent as 1925.

When studying the religion and other culture traits of the Cuna, we must take into consideration that for more than four hundred years they have been influenced by various kinds of whites. Of these, the most important were the French Huguenots who, in the early part of the eighteenth century, possessed important colonies among the Cuna. Many Frenchmen had Cuna wives and had children by them. In 1741 the Spaniards concluded a peace treaty with the Cuna, in which treaty were also included sixty-seven Franco-Cunan families who were living among them. It has been asserted that the Cuna in 1757 massacred all the remaining Frenchmen, at the instigation of the English. At the beginning of the eighteenth century there were settled on the Bay of Urabá a number of Frenchmen possessed of fairly large plantations. As we know from history, in 1698, William Paterson, the founder of the Bank of England, established a Scottish colony among the Cuna in Darien, which enterprise, however, proved entirely unsuccessful and could have had but little influence on the culture of the Indians. During the seventeenth and eighteenth centuries filibusterers maintained a base of operations among the Cuna, whom they viewed as their allies against the Spaniards.

---

[1] See Nordenskiöld, Erland, *Comparative Ethnographical Studies,* Vol. 7; *Indianerna på Panamanä,* Stockholm, 1928.

Roman Catholic missionary activity never, as far as we know, amounted to any great importance among the Cuna, but it must be admitted that very little is known of the early work of these missions. As late as from 1907 to 1910 there was working among the Cuna a Jesuit Father named Gassó, who has written by far the best description of their culture. Also a student of the Cuna language, he has written a grammar and compiled a dictionary of twenty thousand words. Protestant missions among the Cuna have, I believe, not been very important. In any case, when we turn to the study of Cuna culture, we must take account of Catholic, Calvinistic, and Protestant influences.

I have met two Cuna Indians who have been to Sweden and have heard of one who can speak Swedish. This may appear very strange, but it is well known that not a few Cuna Indians have signed on in sailing ships, many of which probably were Scandinavian, and then sailed round the world. There are many Cuna Indians who speak English. When these voyagers returned home from their far-flung excursions, they would, most likely, have many things to tell that may have exercised a positive influence on their kinsmen's world of conceptions.

Many Cuna Indians have been to Colon and Panama and have seen the miracles worked by American engineering science; they have seen the mighty ships of the American Navy as well as its graceful aeroplanes. All this must have been impressive to them and may have influenced their imagination.

The remark may possibly come to mind that there can be but little to interest us in the study of an Indian culture that possesses such slight originality. My answer to this would be that, in the first place, we must find out to what degree this culture has actually been influenced, and whether, in spite of all, it is not still essentially original. Should it be found to have undergone certain changes, it is exactly such changes that provide an interesting study. It is, of course, important to study what modifications a culture—or a system of conceptions—may have suffered from being influenced by some other culture, especially in this case, where the more primitive culture has not been submerged through foreign contact and where its bearers still largely maintain their political independence. We shall here be able to observe how, after a fashion, a new religion has come into being, not by substitution, but by superimposition. We speak and write a great deal of instances of cultural influence, but we know very little of the way in which they operate, or, at any rate, of their positive influence.

A point of great interest is that the Cuna Indians possess a system of picture writing. Instances of picture writing from Darien and the Province of Antiochia have already been mentioned by Martyr and other writers belonging to the era of the discovery. In modern times it has been re-discovered among the Cuna by Padre Gassó and Doctor Harris, who, however, have not as far as I am aware, given it any closer study.

During late years certain individuals among the Cuna have learned to write in our alphabet and then, curiously enough, they have used their proficiency to write down notes on their own realm of imagination. Thus I have in my possession, among other things, a detailed account of the creation of the world written in English by a Cuna Indian, a narrative of the culture hero, Ibeórgun, etc., written in Spanish, and other similar documents. I found these documents among the Indians on my visit. They were not, it should be noted, written at any suggestion of mine. Thus they have in no way been influenced by my questioning on these matters.

In addition I have gathered a good deal of information on Indian imaginative life, in the usual way, by means of questions. My principal informants were an *Inatulēdi* and the *Nēle,* that is to say, persons thoroughly versed in higher Cuna teaching. An *Inatulēdi* is just an ordinary medicineman—or even, though more rarely, a medicine woman—who collects medicinal plants and other medicines, and who, assisted by the tutelary spirits, undertakes to search for souls that have been carried off by evil spirits. The picture writing in which the songs and incantations are recorded serves to fix them in his memory. One becomes an *Inatulēdi* by studying under some established medicineman. The particular *Inatulēdi* from whom I obtained information was one Charlie Nelson of Cuepti. He used to illustrate the things he told me about by drawings.

My other informant was *Nēle,* the paramount chief of those Cuna that after the revolt of 1925 have refused to acknowledge the sovereignty of Panama and the successor of Colman. He was already a *Nēle,* prior to becoming chief. In contradistinction to the ordinary medicinemen, a person is born *Nēle.* This office is not attained merely by passing through a course of instruction. A *Nēle* is not, strictly speaking, a medicineman. He is a very wise man—or occasionally a very wise woman—who has made important discoveries, who is learned in the history of the Cuna tribe, who, in cases of illness can indicate the cause, and who possesses the power of recovering lost property. He is also the arbiter of the morals of his people.

The only author, among the many who have written on the Cuna, who possesses any intimate knowledge of Cuna religion is the Jesuit Padre Gassó. In the literature of a more transient character there are, on the other hand, to be found many very grave misconceptions. The myths that in the beginning of the sevententh century were recorded from Darien by Padre Adrian de Thomas, and generally accepted as referring to the Cuna, are probably from the Chocó Indians. In a future work I intend to compare these notes with the myths I have recorded from the last-mentioned Indians. I am sure it need not be pointed out that it must be of interest to compare myths recorded at an interval of three hundred years.

The Cuna believe in a proprietary god: the god of the Cuna. It is further their belief that man possesses a soul and that the world is full of demons. Also, that there is a nether world where the righteous will be rewarded and evil-doers be punished. In this nether world are many custodians, some of whom, as, for example, those who cause the rain to fall, take an active part in the earthly life of man. The Cuna imagine the sun and moon sailing through the heavens, each in its own fantastic ship, and that the earth is built up in eight layers. All these beliefs are things of the present and form part of the modern Indian's spiritual life. Their legends tell of several culture heroes, though the interest attaching to them is mainly an historical one. They have once for all performed their deeds, in about the same way that Aristotle, Franklin, Darwin, Röntgen, and other great men have accomplished theirs. There are further myths recounting the creation of the world, the big flood, and so on.

As I have said, the Cuna believe in a very mighty god whom, however, they do not confuse with the culture heroes. The god of the Cuna is not the god of all peoples, but only their own god. The negroes, for instance, must have a different god. The Cuna cannot believe that their own god, who is so good and wise, would have been capable of creating such beings as negroes. It was God who punished mankind by means of the flood, among other things, because people had begun to use obscene language, had become dishonest, and no longer believed in him. He is still intervening in the affairs of men; he inflicts punishment upon trangressors. The Cuna have nothing to tell of wrongdoers being forgiven by their god, as in the nether world everything must be atoned for, because god knows all, even the slightest transgression.

The Cuna conception of god in certain respects resembles that of the Old Testament, although they do not appear to offer either prayers or sacrifices to him. They never mention Christ, the Virgin Mary, the Saints, or the Cross, and yet their conception of a supreme being must, nevertheless, have been influenced by Christianity. The outward forms of the Christian cult have not been adopted by them to any extent whatever. The Chocó, the other important tribe in the Isthmus of Panama, also speak of god, but their god is a typical Indian culture hero, who steals the fire from the alligator and who finds water in the tree of life. Their god does not punish a thief or an adulterer in the way the Cuna god does. He only deals out punishment for offences against the laws relating to exogamous marriages, and, in such cases, punishes not only the individual offender, but the community as a whole. The Cuna conception of a deity cannot, in its present form, be of purely Indian origin. Las Casas, however, states that the Indians of Darien believed in a real god, whom they called *Chicume,* and who was the origin of all things. At the beginning of the seventeenth century Padre Adrian de Thomas mentions that the Darien Indians believe in a god who is the father of the sun and the moon. The Cuna conception of a supreme being most alien to Indian culture is the principle that god punishes wrongdoers.

The Cuna conception of an avenging god appears to me to have been influenced more by Calvinism, with its leaning towards severity, than by the more tolerant Roman Catholic doctrine. If so, it would have taken shape through influence from the numerous Huguenots that have lived among these Indians.

The Cuna call their god, *Diolèle, Olokúpilèle,* and *Pápachúnati.* The first-mentioned name is, of course, derived from *Dios.* In the picture writing he is represented in human form. It is never said of him that he visits mankind on earth; never that the medicinemen speak with him, nor that they obtain assistance from him in their incantations. He is never zoomorphic and offerings are never made to him.

If it be that the Cuna have received from the Christians their conception of a supreme being standing apart from the ordinary culture heroes, this would not be so very surprising. Does not the idea that God is an immensely powerful *Néle,* who knows everything and is all-powerful, appear to be as easily acceptable to primitive conception as most other tenets of Christianity which would be difficult of comprehension?

It is God who has created the plants, animals, fishes, the sky, the mountains, and the stars, etc. When at first God had created the earth, it was no larger than a handball, but gradually it grew bigger and bigger. In the beginning, there were animals that were different from those of today, but those early animals burrowed down into the earth where their remains are still found. And so did the trees and they are now there in the form of coal. At that time there were no human beings. The animals of those early times were very strong and lived for hundreds of years. As they went down into the earth, the latter hardened. Subsequently, God created the kinds of trees that we now see, but they are not as robust as those early ones. He also created new animals, such as jaguars, pumas, and fishes, though they are not as strong as those that existed before them. Finally, God created a man, *Olopìliviléle,* and then a woman. Her he created out of his heart, not wishing to use for material his hand as a hand may strike, or his foot, for a foot might kick. Another version has it that God began by creating the woman. In this manner God split himself up into two persons. By means of the woman God creates every conceivable thing, such as rain, thunder, clothing, gold, etc. Most of the things are born by the woman.

In this account of the creation of the world the explanation as to fossils is most remarkable. Fossils are found in great quantities in the territory of the Cuna. According to the *Néle,* numerous skeletons of vertebrata are found in Sierra Tacarcuna. I asked the *Néle* whether it would be possible to find any complete skeletons and the answer given by that intelligent man was: "If you break one stone you may find a leg there, and if you break up another, there may be an arm, and so on."

As has already been stated, in the nether world there are many custodians, among them those who guard the vast water containers and those who supply the earth with rain. They are the servants of God. It is never told of them that they have invented anything novel, in the way done by the culture heroes, neither is it said that they work any harm on mankind, as the demons do.

The Cuna speak of a number of culture heroes. These personages have not created anything new, but only used for their material things already created. They are inventors and the founders and reviewers of certain customs. It is only God who has the power to create. It is characteristic of the Cuna culture heroes, contrary to those of, for example, the Chocó, that the deeds performed by them always lie within the bounds of possibility. The only fantastic thing told about some of them is their heavenly origin. The narratives about these culture heroes have an historical air. It is from the greatest of these culture heroes, *Ibeórgun,* who eight hundred years ago descended from heaven along a bar of gold, that the Cuna learned of the existence of a supreme being. *Ibeórgun* is also the inventor of the picture script and it was he who taught mankind the use of gold. Again, it was *Ibeórgun* who re-introduced the custom of drinking *inna,* which is a kind of maize beer invented by a great chief named

Ibelėle. He is also the founder of the exceedingly complicated ceremonies a girl has to observe at puberty. The word *Ibeórgun* means sun bar, and *Ibelėle,* sun-holy. I believe, however, that it would be rash to identify off-hand either of these personages with the sun.

There are a good many other culture heroes, such as the inventor of pottery-making, of remedies against snake bite, against the bite of the rattlesnake, etc. One of them is famed for his discovery that consumption is blamable to the iguana.

In the tales of the culture heroes there is nothing that appears to have been borrowed from the whites. It is not possible at this time to determine to what extent the culture heroes are historical personages. The majority of them are men, only a very few being women, just as in our own culture. It is remarkable that the art of pottery-making was invented by a man and not by a woman, in view of the fact that nowadays all clay vessels are made by women. The culture heroes play no practical part in the life of the Cuna Indians today. To them they only possess an historical interest.

The evil spirits, on the other hand, are not merely considered as being historically interesting, or believed to exist in the far distance, but they are ever present. There are a great many evil spirits, and it is against them that the medicinemen are ever fighting for the benefit of their fellow men. I have already referred to the medicinemen, who are called *Inatulėdi.* In addition, there is another category called *Absogeti,* who are called in to dispel epidemics; they are always of the male sex. The medicinemen are very powerful, though formerly their power was much greater. Then there were some who were able to call forth thunder and rain and others who, merely by concentrating, could clear broad forest lands. For this they made use of stone axe heads (celts) which they found in the ground. Hence, we see that celts are here believed to have been used for supernatural purposes.

The demons are the root and cause of everything evil. Before speaking any further of them, I ought to mention that the Cuna differentiate between body and soul. The latter is able to leave the body, as, for instance, during sleep. It is also possible for the soul to be carried away from its body by an evil spirit. If not released from the clutches of the demons, the person dies. After death the soul departs from the body and is carried to the nether world by the tutelary spirits. Padre Gassó quite properly remarks that the Indian has no clear idea as to how a sick person is able to live without his soul, nor as to the manner in which the ravished soul is liberated from the power of the evil spirits so as to be able to begin its journey through the nether world. For my part, I never heard them, as the Chocó did, resort to the explanation that man has two souls. As we shall see, the soul may also die. Judging from a Cuna Indian picture of the nether world, the soul is imagined to possess human shape. I never heard the Cuna express the belief that after death the soul assumed the form of an animal. Padre Gassó, however, has it that this is so. But the demons frequently assume animal shape.

It is not permissible to mention the name of a deceased person. This goes to show that it is possible to summon the dead, although they be far away in the nether world. It is still customary to bury the dead with his possessions. His canoe is disposed of by sale and the money placed in the grave. In spite of the conception of a nether world it would nevertheless seem that the Cuna are under the impression that in some way the soul is confined to the grave. On this point they show their inconsistency. The Cuna never identify their deceased with demons. The Chocó, on the other hand, say that all bad people eventually turn into *animára,* that is, demons.

Demons are everywhere present. They are found in the winds, in the sea, in plants and animals, and in the eight layers of which the earth is built up. They also travel as passengers on the sun and moon ships. The idea that the earth is composed of layers is met with in Mexico, as well as in South America.

No parallel to what the Cuna tell of the sun and moon ships is, as far as I am aware, known from any other part of the New World. The sun ship circles the earth; in the morning it stops for a moment to receive passengers—divers kinds of illness demons. Encircling the sun's brow is a great red snake. The skipper commanding the ship is a mighty demon. Among those who traveled in the sun ship are a monkey demon, the black demon, the red illness demons, and many others. In the bows of the sun ship stands a cock. When it crows in the morning, all the cocks on the earth answer him. Their hearing is much keener than ours. The moon, too, travels in a large canoe. The moon, like the sun and the stars, has once been human. The planets, among them *púgsu,* that is, Venus, are children of the moon. Venus is known as a fighter against the illness demons. The illnesses of the night travel as passengers in the moon ship. The captain of this ship is called *Chítchipníatúmadi,* which means, the great demon of the night. Another of its passengers is the black dog: when it gnaws away at the moon, there is a lunar eclipse. At such a time only albinos are allowed abroad and then they shoot small arrows from their bows to frighten away the black dog. On the moon ship there also travels *Chíchipáchudúvalet,* who is half dog, half woman. When a person raves and wants to throw himself into the sea, it is this demon who is at work. If, in a dream, a flying black demon approaches one, then it is a moon ship passengers one beholds.

The songs of these Indians have for their subject mostly illnesses. The songs are the means by which souls ravished by evil spirits are returned to their respective bodies. It is by his singing that the medicineman searches for the lost soul through all the dwellings of the evil spirits in the eight different layers of the earth. In this work the medicineman receives assistance from the benevolent spirits, previously mentioned. It is by them that the sick person's soul is fetched back. They are often represented in human form, as wooden figures, but, as far as I have been able to make out, it is, after all, only the particular kind of wood of which they are fashioned that is of importance, that is to say, the tutelary spirit is inherent in a certain piece of wood; that this lump of wood has subsequently been given human shape is perhaps a circumstance of merely decorative import. Some of these wooden figures appear to be of great age, as they are attired in European dress of the eighteenth century. Of great importance are the *ácualélegána.* In his explanation of a piece of picture writing an Indian writes of these as follows:—

> *Acualelegana* are a kind of stone that are found in the running waters of the great rivers. They are very hard and smooth. If an ignorant person should happen to break one of these stones, he will fall ill and die unless he receives skilled assistance. They are used by the Cuna in curing fevers. These stones are living things, like the animals. Other kinds of stones are of no use.

The strongest river current is powerless to move one of these stones, though it often may be no larger than a man's fist. This Nelson explained by placing an *ácualél* on the ground and then drawing concentric circles round it. He presented me with a stone of this kind about which he maintained that the tutelary spirit still remained when I was at Cuepti. Nelson said that I was to take great care of it lest the tutelary spirit vanish. We brought home with us quite a number of wooden figures of this kind, but it appears that the tutelary spirits they once contained have now taken themselves off. It is by means of *ácualélegána,* assisted by singing, that ravished souls are brought back from the underworld, and sick people thereby cured.

When an illness of epidemic character appears among the Cuna, an *Absogéti* is called in. This man then collects hundreds of wooden figures, that is to say, tutelary spirits, which he stands in a row along the walls of the hut. After that, he lies in his hammock for four days, singing. The songs sung by the *Inatulédi* and the *Absogéti* in carrying out their exorcisms of demons have largely been recorded in picture writing. This writing serves as an aid to memory, besides which it is possible that the script itself possesses magical potency. The *Néle* is said not to make use of picture script.

In the Cuna conception of the demons and of the causes of illnesses we can discern no appreciable influence from the whites. Whilst the Cuna imagine that when a person has fallen ill, the illness is due to his soul having been carried off by an evil spirit, the Chocó believes that he is possessed by a demon. Thus, we here see two neighboring peoples with entirely different ideas as to the cause of illness. In certain cases, however, the Cuna also believe that a person is possessed by a demon, and that is when he is wandering in his mind and talking at random, or when simply talking in his sleep. Burning alive used to be resorted to in such cases. Padre Gassó mentions such acts of *auto-da-fé,* and I have also heard tell of them. Professor Lowie has made special study of the distribution of these divers conceptions as to the cause of illness.

When illness leads to death, due to the soul not having been rescued from its imprisonment by the evil spirits, the deceased is carried to the burial place. Those of the Cuna who occupy the coral islands of the San Blas Archipelago have their burial grounds on the mainland. Each family there possesses a hut in which their dead are buried. These huts constitute the village of the dead. Into the grave are laid four sticks with yellow feathers; they contain the tutelary spirits who are to escort the deceased through the nether world. Further, there are placed in the grave a miniature ladder on which he is to climb up to heaven and also small arrows and a bow, with which he can hunt.

It would take us too far afield to give an account of all the things that happen to the departed during his journey through the nether world. He travels on the *Oloubigundihuar,* the mother of all rivers; he traverses two lakes by means of a cotton cord which transforms itself into a bridge and this cord he has with him in the grave. Everything in this nether world is of gold or silver, gold being the metal of the righteous and silver that of the wicked. There are said to be high walls and gates that open at a magical command, like those of the "Arabian Nights." Also there are eagles and statues made of gold, many-storied palaces, railways, elevators, and telegraphs. At every point the dead man is confronted by perils that may destroy him if he has led a sinful life, that is to say, if he has been guilty of adultery or stealing. There he also meets many chiefs of the beasts, for the animal world, too, has its chiefs. To the Cuna, as to certain other more primitive Indian tribes, no essential difference exists between mankind and the animals. Throughout the narration there runs a most severe moral tendency, disclosing even such singular precepts as that of man being commanded not to ill-treat animals. This principle of protection for animals is not an Indian element, nor hardly a Christian one. It is foreign to the lower-class Christian population of Spanish America.

In the nether world the soul of the departed does not meet any of the culture heroes, though he encounters many custodians of divers kinds who neither befriend him nor do him harm. Of demons he sees none, but, on the other hand, there are ferocious beasts who will annihilate him if he has sinned whilst on earth.

The narration of the nether world forms, together with their conception of god, the portion of the Cuna religion that appears to be most tinged by white influence. When the *Néles* have been describing the nether world as being much more magnificent than the vale of tears in which we live, they have furnished it with all manner of things that they have heard of from the wide world visited by their traveled countrymen. It is not pure invention, neither is it deliberate lying, but only quite natural that in that other world there must be found all those wonderful things that the whites possess. That is how the Indians themselves look upon the matter. When I said to a Cuna Indian named Morris, who is studying at the Panama Gymnasium—and who can calculate by logarithms, at a pinch—"I suppose the *Néle* has just put in that bit about railway trains in the nether world himself," then this student of twenty ironically retorted to me: "The *Néle knows* that there are railway trains in the nether world." And I am fully convinced that the *Néle* believes in the existence of railway trains there, and that notwithstanding, he himself, perhaps, made this addition to the narration. In the Cuna paradise there is everything that is desirable to them, or else, of course, it would be no paradise.

The Cuna narration of the nether world shows of what great importance to the creation of myths the rumor of marvelous things found among other nations can be. In the narration of the nether world, as in the Cuna incantations, the magic numbers are four and eight. The number four represents the points of the compass and most probably the number eight possesses a similar significance.

In everything the Cuna narrate, color magic plays an exceedingly important part. They tell of red, blue, and black illnesses, and so forth. The red illnesses are among the passengers on the sun ship. Those magic numbers, as well as the color magic, are things essentially Indian. Both are found, for instance, in Mexico.

If we hear from the Cuna Indians different accounts of the journey through the nether world, of the creation of the world, etc., we are not therefore justified in hastily concluding that only one version can be the correct one, and that our informants are deliberately telling untruths. I have heard different persons give very varied descriptions of the same thing. It is a mistake to think that all Indians of the same tribe hold exactly the same dogmatic beliefs. And it is pointed out by Padre Gassó that the Cuna supernatural world is somewhat hazy, different medicinemen not teaching precisely the same. It is indeed possible that among a people who, within a comparatively brief period, have received a multitude of novel impressions, opinions may vary a great deal.

In the original Indian documents the train of thought is often difficult to follow. But here the train of thought is the essential thing and not the form in which we clothe it when writing from Indian dictation.

We have seen how the Cuna world of conceptions still in its main outlines retains its Indian character. On this foundation they have continued to build whilst influenced by Christianity and by what their traveled countrymen may have seen or heard in foreign lands. These are the materials of which their new religion has been built up, and from which it still may be receiving additions.

The study of Cuna religion, of their magic and their picture script—the latter being, as I have said, of purely Indian origin—should prove very helpful in adding to our knowledge of the Central American Indians' world of conception in pre-Columbian times.

Another very important study, and one that should be begun with as little delay as possible, is that of their astronomical lore, a study which I unfortunately was prevented from undertaking by illness. There are in Central America also other Indian tribes whose religious conceptions would no doubt amply repay the student, as for example, the Guaymies of Panama. With the Chocó I am fairly familiar—and once I had a medicineman of theirs as a traveling companion for four months—but their imaginary world is somehow less interesting. It is of a type common to many South American Indians known to me.

In conclusion, I would urge the desirability of the study of Central and South American Indians being organized and systematized as speedily as possible. Those devoted to this study are exceedingly few in proportion to the vast field awaiting to be worked. Without wishing in the slightest degree to detract from the value of archaeological research, I consider that at the present time it is of still greater importance to study the Indians of today, who are everywhere losing their original culture and their original world of conceptions.

MUSEUM GÖTEBORG,
SWEDEN.

DIE FRAGE EVENTUELLER ALTER KULTURBEZIEHUNGEN ZWISCHEN DEM SÜDLICHSTEN SÜDAMERIKA UND SÜDOSTAUSTRALIEN

Von Wilhelm Koppers

NAMENTLICH im Verlaufe der beiden letzten Jahrzehnte ist die Frage nach eventuellen kulturhistorischen Beziehungen zwischen der Alten und Neuen Welt vielfach erörtert worden. Es genügt hier an Namen zu erinnern wie Graebner, Foy, Schmidt, Röck, Nordenskiöld, Kreichgauer, Rivet, Wölfel, Imbelloni, Mendes Corrêa und Friederici. Es kann meines Erachtens kein Zweifel mehr darüber bestehen, dass die Arbeiten der genannten Autoren den Bestand irgendwelcher Beziehungen wirklich aufgedeckt und klargestellt haben. Die Natur der Sache bringt es mit sich, dass die Erforschung der Beziehungen es vornehmlich mit relativ jungen Kulturverwandtschaften zu tun hat: einesteils sind die jüngeren Kulturbildungen an sich höherer und reicherer Art, anderseits mit besseren Verkehrsmitteln (man denke hier an Melanesier und Polynesier) ausgerüstet und vermögen deshalb weitere Erd-und Wasserstrecken leichter zu durchmessen. Mit dem Gesagten ist gleichzeitig angedeutet, dass für diese relativ jungen Beziehungen zwischen der Alten und Neuen Welt allgemein eine Vermittlung auf dem Seewege angenommen wird. Man wird damit im Ganzen genommen wohl auf richtiger Fährte sein.

Neben den genannten Beziehungen jüngeren Charakters sind aber auch solche älterer Art angenommen worden, Beziehungen z. B. zwischen einer totemistisch orientierten Kultur in Ozeanien und einem entsprechenden Komplex in Südamerika, Beziehungen auch zwischen einer altaustralischen und der Feuerlandkultur. Es liegt auf der Hand, dass in diesen und ähnlichen Fällen an eine Verbreitung über die weiten Strecken des Ozeans hin nicht gedacht werden kann, dafür fehlen diesen älteren, den sogenannten Urkulturen einfach die erforderlichen Fahrzeuge. Es muss also, wenn überhaupt, in diesen Fällen an eine uralte Beziehung bzw. Verbindung zu Lande gedacht werden. Die ganze hier vorliegende Frage ist namentlich methodisch von grundlegender Bedeutung, und so glaube ich keinen Fehlgriff zu tun, wenn ich sie, d. h. spezieller die Frage eventueller alter Kulturbeziehungen zwischen dem südlichsten Südamerika und dem primitiven Südostaustralien, einer näheren Betrachtung unterziehe.

Der Gang der Untersuchung ist also klar gegeben: erstens, welche Übereinstimmungen, bzw. Ähnlichkeiten weisen im Kulturgut Feuerland und Alt-, d. i. vor allem Südostaustralien, mit einander auf; zweitens, wie haben wir diese Übereinstimmungen und Ähnlichkeiten zu deuten.

Schon Graebner[1] hatte seinerzeit auf etliche auffallende Ähnlichkeiten zwischen der altaustralischen und der Feuerlandkultur hingewiesen, so auf die beiderorts als Kleidungsstücke in Betracht kommenden Fellmäntel, dann auf die hier und dort gleichgearteten in Spiralwulsttechnik gehaltenen Binsenkörbchen. Natürlich zog er auch den Gesamtcharakter der an beiden Stellen gegebenen Wirtschafts- und Kulturform in Betracht, das niedere Jäger- und Sammlertum, wie es eben hüben und drüben herrschend ist. Graebner[2] übersah dabei keineswegs die Unterschiede, welche beide Kulturkomplexe von einander trennen. Er redete deshalb nur von einer alten gemeinsamen Komponente, die beiderorts noch deutlich und fassbar in die Erscheinung trete. Ich glaube, mit meinen weiteren Darlegungen zeigen zu können, dass Graebner in der Tat mit der angeführten Charakterisierung im Grunde auf gutem Wege war.

---

[1] *Anthropos,* Band 4, 1909, 1014.

Wenn ich im Verlaufe meiner weiteren Ausführungen von Feuerländern rede, so meine ich in erster Linie den südlichsten der drei Feuerlandstämme, die Yamana, und ziehe nur zum Teil auch die beiden anderen Stämme, die Alakaluf und die Ona, mit heran. Diesen Feuerländern werden nun keineswegs sämtliche Eingeborene Australiens gegenübergestellt, sondern nur die Stämme des Südostens, unter welchen wieder die Kurnai als besonders typisch und markant hervorragen. Im Gange der Ausführungen wird noch näher zu zeigen sein, wie diese Südostaustralier einerseits sich in vielen wesentlichen Punkten von den übrigen Eingeborenen Australiens abheben, anderseits aber um so mehr Übereinstimmungen und Ähnlichkeiten mit den Feuerländern hervortreten lassen.

Fassen wir nun die Hauptgebiete des Kulturlebens ins Auge, so offenbaren sich auffallende Übereinstimmungen zwischen Südostaustralien und Feuerland vor allem inbezug auf folgende Punkte: Die *Wirtschaft* erschöpft sich beiderorts in einem primitiven Jagd-, Fischer- und Sammlerleben. Ich bin weit davon entfernt, gerade diese Übereinstimmung ohne Weiteres auf eine kulturhistorische Beziehung zurückzuführen. Aber anders wiegen wohl die formellen Übereinstimmungen inbezug auf einzelne Teile und Werkzeuge, wie sie im Wirtschaftsleben zur Anwendung kommen. Fellmäntel und Binsenkörbchen in charakteristischer Form wurden oben bereits gennant. Ich lasse die Fellmäntel als vielleicht unsicher beiseite, mache aber neben den Binsenkörbchen aufmerksam auf die wenigen Steinwerkzeuge, wie sie auf Feuerland im Gebrauche sind bzw. waren, die wesentlich den australischen gleichen. Diese bezeichnete bereits Klaatsch als Moustérienartig, während jene von Professor Menghin dieselbe Charakterisierung erhielten. Ich erinnere auch an die einfachen Stabkeulen, wie sie hüben und drüben als Waffen im Gebrauche sind. Schliesslich seien noch erwähnt die Binsenkorbhütte und das Feuerquirlen, welch letzteres jedenfalls einem Teile der Feuerländer bekannt war. In negativer Hinsicht verdient Beachtung, dass beiderorts das geschäftete Beil fehlte und infolgedessen Einbäume oder Plankenboote herzustellen nicht möglich war und mit Rindenbooten das Auslangen gefunden werden musste.

Die *Familienverhältnisse.* Im allgemeinen kann man sagen, das laut den vorliegenden Zeugnissen sowohl auf Feuerland wie in Südostaustralien die Monogamie weitgehend vorherrschend war, aber beiderorts scheint die Polygamie nicht so selten gewesen zu sein. Aber hier wie dort haben wir es im übrigen in gesellschaftlicher Hinsicht deutlich mit sogenannten vortotemistischen und vormutterrechtlichen Verhältnissen zu tun. Dieser Feststellung möchte ich besondere

---

[2] *Methode der Ethnologie,* Heidelberg, 1911, 149.

Bedeutung beimessen. Es verstösst dagegen nicht die Tatsache, dass einerseits in Südostaustralien mancherlei totemistische Beeinflussung wahrzunehmen ist, (ich bin geneigt, dahin auch den namentlich über Südostaustralien verbreiteten Geschlechtstotemismus zu rechnen), und anderseits auf Feuerland der Einfluss mutterrechtlicher Kultur mehrfach sogar in starker Wirkung (Männerfeste) beobachtet werden kann. Beide Befunde gewinnen ihre naturgemässe Erklärung in dem Charakter der jeweiligen Nachbargebiete, in Australien sind sie vorwiegend totemistisch, in Südamerika dagegen viel mehr mutterrechtlich orientiert. Den gekennzeichneten Verhältnissen entsprechend ist weder hier noch dort eine, sei es totemistische Clan-, sei es mutterrechtliche Klassenexogamie vorzufinden, sondern eine normale Blutsverwandtschaftsexogamie, mehr oder weniger durch eine lokale Exogamie näher bestimmt, herrscht vor.

Die bisher angeführten gemeinsamen Elemente einerseits der wirtschaftlich-ergologischen Sphäre, anderseits des familial-gesellschaftlichen Lebens sind m. E. schon durchaus danach angetan, einen gewissen Eindruck zu machen. Alle diese Übereinstimmungen und Ähnlichkeiten einfach auf den Zufall oder auf irgendein mystisches, unkontrollierbares Konvergenzprinzip zurückführen zu wollen, beinhaltet eine wissenschaftlich schwer haltbare, geschweige denn befriedigende Zumutung. Schon auf Grund der erwähnten Daten wird man an der Annahme irgendeiner gemeinsamen Komponente in beiden Komplexen kaum vorbeikommen.

Es sind aber die bestehenden Gemeinsamkeiten noch keineswegs alle namhaft gemacht. Eine wichtige, die *Jugendweihe* für beide Geschlechter, Knaben und Mädchen, wie sie für beide in Frage stehende Erdgebiete bekannt geworden ist, bedarf jetzt einer etwas eingehenderen Erörterung. Denn mir scheint, dass gerade dieser Übereinstimmung eine ganz besondere Bedeutung zukommt.

Für die Initiationsformen eines grossen Teiles der Australier ist bekanntlich Howitt unsere beste Quelle. Howitt selber unterscheidet nun wiederholt zwischen dem sogenannten östlichen (südöstlichen) und westlichen Typus der von ihm auf australischem Boden vorgefundenen Initiationszeremonien. Während beim westlichen Typus die verschiedenen Formen der Beschneidung und vielfach eine ausschliessliche Initiation für die Knaben vorherrschend ist, fehlt dem östlichen sowohl die Beschneidung, als auch die einseitige ausschliessliche Berücksichtigung des männlichen Geschlechtes, wenigstens stellenweise (so bei den Kurnai), und zu einem Teil der Zeremonien sind die Angehörigen beider Geschlechter in wesentlicher Gleichberechtigung zugelassen. Die hier in Betracht kommende Jugendweihe der Feuerländer ist namentlich den bekannten Forschungen meines Kollegen P. M. Gusinde zu danken, an dessen dritter Reise im Jahre 1921–22 ich teilnehmen konnte. Ausgesprochener noch als die Jugendweihe der Südostaustralier fordert die der Feuerländer eine im wesentlichen gleiche Behandlung beider Geschlechter, der Knaben und Mädchen. Ebenso fehlt im Rahmen der Feuerland-Initiation die Beschneidung, wie auch jede andere körperliche Deformation.

Die Grundtendenz der Initiationsfeier ist dann beiderorts klarerweise eine sozialethische, die bei der Veranstaltung im einzelnen getroffenen Massnahmen, im besonderen die dabei erteilten Unterweisungen, lassen darüber keinerlei

Zweifel. Wenn bei den Kurnai in Südostaustralien die Kandidatenschaft eindringlich zur Pflege des Altruismus ermahnt wird (sie sollen alles mit ihren Freunden teilen), so trifft auf Feuerland dasselbe zu. Ebenso stimmen ganz überein die Ermahnungen zur Friedfertigteit, zum Respekt vor dem Alter, wie auch vor den fremden Frauen und Mädchen. Wenn ferner bei den Kurnai die Beobachtung bestimmter Speisebeschränkungen eingeschärft wird, von denen nur der Wille der alten Männer befreien kann, so fehlt auch diese Eigenheit namentlich bei den Yamana auf Feuerland nicht ganz. Durch Austeilen von Lebensmitteln an alle Anwesenden macht der Kandidat sich gewissermassen frei und darf nun davon auch selber essen. Überhaupt Hunger und Durst zu ertragen, gehört wie etwas Selbstverständliches zum Initiationsritus der Südostaustralier sowohl wie der Feuerländer. Dasselbe gilt von dem Gebot des Schweigens, der Hut der Augen, alles Massnahmen, die ausgesprochenermassen auf eine Erziehung zur Selbstbeherrschung bei der Kandidatenschaft hinzielen.

Bei den Kurnai kommen bei den Zeremonien gelegentlich Grabstöcke der Frauen in verkleinerter Form zur Anwendung. Der Stab, welcher bei den Yamana auf Feuerland zur unerlässlichen Ausrüstung eines jeden Teilnehmers gehört, ist in der äusseren Form nichts anders als ein etwa um die Hälfte oder um zwei Drittel verkleinerter Grabstock. Ich erwähne noch die Tiertänze bzw. Tierspiele, wie sie hier wie dort der Unterhaltung wegen dem Zeremoniell eingefügt erscheinen. Die Einrichtung der Patenschaft gleicht sich ebenfalls ganz wesentlich. Ja, auch darin stimmt man beiderorts miteinander überein, dass die Kandidaten nach Beendigung der Feier nicht ohne weiteres sich selbst überlassen bleiben, sondern noch eine Zeitlang mehr oder weniger beaufsichtigt und kontrolliert werden. Last but not least, so möchte ich sagen, ist hervorzuheben, dass beide Völkergruppen für ihre Jugendweihe eine gewisse religiöse Sanktion kennen: die Jugendweihe weist unverkennbare Beziehungen auf zu einer Hochgottgestalt, bei den Kurnai *Mungan ngaua* (unser Vater), bei den Yamana auf Feuerland *Watauinewa* oder *Hitapuan,* d. i. mein Vater, genannt. Dieser Allfather will die Jugendweihe und ahndet im gegebenen Falle die Übertretung der dabei erteilten Vorschriften, namentlich durch Verhängung von Tod oder Krankheit über den Übeltäter oder seine Kinder.

Um nicht ein falsches Bild zu bekommen, seien nun auch die hauptsächlichen Differenzen namhaft gemacht, wie sie zwischen der Jugenweihe auf Feuerland und der in Südostaustralien deutlich sind. Auf einiges wurde gelegentlich bereits hingewiesen. So auf den stärkeren totemistischen Einschlag, der in Südostaustralien vorwaltet. Auf ihn ist, wie ich glaube, die im allgemeinen relativ starke Trennung der Geschlechter und dann vor allem die Tatsache zurückzuführen, dass Mädchen und Frauen nur einem beschränkten Teil der Initiationsfeierlichkeiten beiwohnen dürfen und endlich auch von der Belehrung über den Allfather *Mungan ngaua* ausgeschlossen sind. Eine weitere Besonderheit stellt im Rahmen der südaustralischen Jugendweihe das Vorhandensein der Schwirrhölzer als Symbole des Vorfahrenpaares oder auch der totemistischen Vorfahren dar. Anschliessend hieran ist das rituelle Zahnausschlagen zu nennen, das wiederum den Feuerländern gänzlich fehlt, aber in Südostaustralien eine ziemlich allgemeine Verbreitung aufweist. Auch die geltenden Speiseverbote weisen mehrfach die Beeinflussung durch gemein-australische totemistische Anschauungen und Gepflogenheiten auf. Dem allen gegenüber lässt die Jugendweihe auf Feuerland eine grössere Unberührtheit hervortreten. Nicht als hätte es den Feuerlandstämmen an entsprechenden jüngeren Einwirkungen von aussen her gefehlt: das offenbar aus mutterrechtlichem Geiste und mutterrechtlicher Kultur stammende *Kīna* (Männerfest) der Yamana, das im Grunde identisch ist mit dem *Klóketen* der Ona, zeugt vielmehr für das Gegenteil. Aber der Umstand, dass das *Kīna* eine Sache für sich geblieben ist und nicht mit der älteren eigentlichen Jugendweihe sich verquickte, hat die letztere in relativ voller alter Reinheit erhalten. So blieb die Jugendweihe auf Feuerland von jener Verbasterung verschont, der sie in Südostaustralien doch in ziemlich weitgehendem Masse anheimgefallen ist.

Ich habe versucht, in gedrängter Kürze jene Kulturelemente Feuerlands und Südostaustraliens hervorzuheben, die einander auffallend ähnlich sind, bzw. sowohl in Form wie nach Inhalt und Zweck mehr oder weniger mit einander übereinstimmen. Die Situation ist hier m. E. so, dass die Anwendung von Form- und Quantitätskriterium dazu zwingt, mit irgendeiner ursprünglichen Kulturverwandtschaft zwischen beiden Komplexen zu rechnen. Ich glaube, dass diese Annahme eine Verstärkung erfährt, wenn wir neben Form- und Quantitätskriterium auch die geographische Lage, gewissermassen als ergänzendes, als Hilfskriterium, mit in Betracht ziehen. Vom geographischen Gesichtspunkte aus zeigt sich nämlich bald, dass wir es sowohl bei den Feuerländern als auch bei den Südostaustraliern mit weitest zurück- und beiseite gedrängten Völkersplittern zu tun haben, so dass also auch vom Gesichtspunkte der Kulturlagerung der Anschauung nichts in Wege steht, dass wir es hier in der Tat mit relativ ältesten (entwicklungsgeschichtlich gleichaltrigen!) Gruppen zu tun haben.

Stellen wir uns nun einmal auf den Standpunkt, dass in beiden Völkerkomplexen eine alte gemeinsame Komponente steckt, ich rede absichtlich von gemeinsamer Komponente, weil gewisse Differenzen im Kulturbild klar zutage liegen, so ist damit ohne weiteres gegeben, dass es für diese gemeinsame Komponente einen gemeinsamen Ausgangspunkt gegeben haben muss. Dass dieser gemeinsame Ausgangspunkt weder in Südostaustralien noch in der äussersten Südspitze Amerikas zu suchen ist, ist wohl ohne weiteres evident. Die ganze Lage der Dinge führt vielmehr zur Annahme, wenn sie nicht gar dazu zwingt, dass der gemeinsame Ausgangs- und Herdpunkt irgendwo in Asien (Südasien, Südostasien ?) zu suchen ist, von wo dann die Gemeinsamkeiten, die Feuerland und Südostaustralien kulturell miteinander aufweisen, ihren Weg einmal hierhin und dorthin gefunden haben müssen. Den jeweiligen Weg freilich werden die betreffenden Kulturträger wohl weniger selbst gesucht und gewählt haben, sondern als kaum organisierte niedere Jäger und Sammler wurden sie von nachdrängenden totemistischen höheren Jägern und mutterrechtlichen Hackbauern leichter Hand immer weiter vor- und beiseite geschoben, bis sie in jenen weltentlegenen und unwirtlichen Zonen der menschlichen Ökomene landeten, in denen wir ihre Reste heute noch vorfinden. Dass dabei für die schliesslich bis zum äussersten Südamerika vorgetriebene primitive Gruppe der Landweg (über die Beringstrasse) anzunehmen ist, macht die Betrachtung der gesamten Lage der Dinge so gut wie sicher.

Wenn ich das südliche Asien als vermutliche Urheimat jener Gemeinsamkeiten bezeichnet habe, die wir auf Feuerland und in Südostaustralien feststellen, so darf wohl an die bekannten in jenen Gebieten beheimateten primitiven Negrito-Gruppen erinnert werden, die, obwohl heute in verschiedene Splitter zersprengt und zerstreut, früher gewiss einmal eine Einheit bildeten. Und von diesen Negritos dürfen im gegebenen Zusammenhange wohl die Andamanesen ein besonderes Interesse beanspruchen, da ihnen ja eine Art der Jugendweihe eigen ist, die in einigen wesentlichen Punkten (Jugendweihe für beide Geschlechter, Enthaltung von bestimmten Lebensmitteln, feierliche Aufhebung der einzelnen Abstinenzverbote usw.) recht frappant an die auf Feuerland und in Südostaustralien in Übung stehende erinnert.

Es ist klar, dass der ganze Beweisgang, wie ich ihn zu führen versucht habe, keine geringe Verstärkung erfahren würde, wenn zu zeigen möglich wäre, dass den kulturellen Übereinstimmungen solche physisch-anthropologischer Art parallel gehen. Ich sage, dass das eine Verstärkung des Beweisganges von einer neuen Seite her bedeuten würde. Der ethnologisch-kulturhistorisch geführte Beweis besitzt nämlich an und für sich ganz gewiss seine eigene selbständige Kraft. Es brauchen den kulturellen Gemeinsamkeiten nicht unbedingt die physischen entsprechen. Denn es ist durchaus mit der Möglichkeit zu rechnen, dass die physischen rassenhaften Beziehungen im Laufe der Zeit völlig abgeblasst, zerflossen sind, während die kulturellen noch deutlich genug zutage treten. Nun, mit Rücksicht auf unseren Fall dürfen wir—die folgenden Daten verdanke ich einem freundlichen Hinweis des bekannten Wiener Anthropologen Doktor Lebzelter—darauf hinweisen, dass der Nestor der europäischen Anthropologen Sergi, schon vor einem halben Jahrhundert auf einen morphologischen Merkmalkomplex am Schädel hingewiesen hat, der im wesentlichen durch Lophokephalie charakterisiert ist. Dieser Merkmalkomplex findet sich sowohl bei Australiern und Melanesiern wie auch bei verschiedenen amerikanischen Gruppen. Die morphologische Analyse der von Gusinde mitgebrachten Skelettreste der Feuerländer ergab weitgehende Übereinstimmungen auch in anderen morphologischen Details. Jüngst hat Sergi[3] nun in einem zusammenfassenden Werke das Vorkommen dieser Merkmalkomplexe auch in Nordamerika (in Californien) nachgewiesen und leitet aus einer gemeinsamen australoiden Wurzel in der neuen Welt drei Rassengruppen ab, eine eskimoide, wohin er auch die Lagoa-Santa Rasse zählt, eine tasmanoide (australoid im Sinne von Gusinde-Lebzelter) und eine feuerländische. Es scheint, dass diejenigen Merkmale, die den feuerländischen Typus vom australoiden trennen, ihn mit dem eskimoidalen verbinden. Es darf weiter darauf hingewiesen werden, dass der verdienstvolle Forschungsreisende Montandon diesen australoiden Typus auch bei den Ainus und bei einem prähistorischen, wahrscheinlich neolithischen Schädel, von der pazifischen Küste Sibiriens nachgewiesen hat. Doch kehren wir zu unserem Falle zurück, so können wir jedenfalls sagen, dass dem ethnologisch gewonnenen Ergebnis der gemeinsamen Komponente in der australischen und in der Feuerlandkultur von seiten der physischen Anthropologie her nicht nur nicht widersprochen wird, sondern dass es auch unter dieser Rücksicht eine gute Bestätigung findet.

---

[3] *Gli' indigeni americani,* Roma, 1928.

Was endlich die Vergleichung der in beiden Komplexen gesprochenen *Sprachen* anbetrifft, so dürfte natürlich auch diese nicht übersehen werden. An die Vergleichung konnte aber erspriesslicherweise noch nicht herangetreten werden, weil namentlich in Bezug auf die Sprachen der Feuerländer noch immer die nötigen Vorarbeiten nicht erledigt sind. Auf jeden Fall wäre es methodisch einzig richtig und vielleicht nicht ohne alle Aussicht auf Erfolg, die Sprachen jener Völkergruppen miteinander zu vergleichen, deren kulturgeschichtliche Zusammenhänge oben bereits zur Darstellung kamen, also einerseits der Feuerlandsprachen, des Yamana, Alakaluf, Ona, und anderseits der südostaustralischen Stämme, Kurnai, Kulin usw. Dass beide Sprachkomplexe allgemein eine Anzahl von primitiven Merkmalen aufweisen, ist schon von W. Schmidt[4] in eingehender Weise gezeigt worden. Die Sprachen beider Gruppen, eine ganze Anzahl von Eigentümlichkeiten spricht dafür, gehören den sogenannten Ursprachenkreisen an (l. c., p. 500 ff.). Die Frage, ob darüber hinaus auch eine Sprachverwandtschaft in einem engeren und spezielleren Sinne besteht, kann derzeit noch nicht beantwortet werden.

Die, wie ich glaube, wahrscheinlich gemachte Tatsache der gemeinsamen Komponente in südostaustralischer und Feuerlandkultur würde nun naturgemäss noch weiterhin an Überzeugungskraft gewinnen, wenn dieselben kulturellen Eigentümlichkeiten nachzuweisen möglich wären bei primitiven Völkern, die auf der anzunehmenden Wanderungsstrecke sitzen. Eine solche verbindende Brücke speziell zu den Feuerländern hin scheinen nun bestimmte nordamerikanische Primitivstämme, es kommen namentlich die des nördlichen zentralen Californiens in betracht, zu bilden. Ich darf hier dem Sinne nach ein Wort zitieren, das mir seinerzeit Herr Professor Kroeber schrieb, nachdem ich ihm einiges Wesentliche der auf Feuerland festgestellten Initiationszeremonien mitgeteilt hatte. ‘‘Ich kann mir nicht helfen, die Sachen müssen mit den hiesigen (kalifornischen) in irgendeinem Zusammenhange stehen.’’ Nun kann ich für diese Anschauung eine neue Autorität anführen, nämlich P. W. Schmidt, der soeben einen mehr denn tausend Seiten umfassenden Band über die Religion sämtlicher primitiver Jäger- und Sammlerstämme Amerikas fertiggestellt hat. Allein schon auf dem Gebiete der Religion und Mythologie sind der Übereinstimmungen und Ähnlichkeiten zwischen den genannten kalifornischen Stämmen und jenen Feuerlands so viele, dass W. Schmidt von einem uralten kulturverwandtschaftlichen Zusammenhang überzeugt ist. Aus seinen einschlägigen Ausführungen bringe ich hier jene Stelle, wo die Gemeinsamkeiten in Zeremoniell der Jugendweihe auf Feuerland und Californien zusammengefasst werden. Schmidt schreibt:—

> ‘‘Es erübrigt noch, einige kleinere Einzelheiten zusammenzustellen, in denen die feuerländischen Jugendweihen mit den nordzentralkalifornischen Zeremonien übereinkommen. Da beide nicht nur Veranstaltungen zur Belehrung, zum Unterricht, sondern auch zur Ausübung des Gelernten, zur Erprobung und Übung der Willenskraft und der Selbstbeherrschung sind, so ist das Vorhandensein von Ähnlichkeiten dieser Art noch kein charakteristisches Ähnlichkeits-

---

[4] *Sprachfamilien und Sprachenkreise der Erde,* Heidelberg, 1926.

kriterium. Anders aber, wenn diese Ähnlichkeit bis in kleine unbedeutende Einzelheiten geht. Ich rede hier nicht von der Entziehung und Einschränkung des Schlafes, aber mehr fällt schon ins Gewicht, neben der Beschränkung der Speisen, auch die des Trankes, wie sie z. B. bei den Tan'o'm-Yuki, den Maidu und bei allen drei Feuerlandstämmen geübt wird. In der Taikomol-Zeremonie der Inland Yuki heisst es: 'Die Kinder sassen mit gekreuzten Beinen, und es war ihnen verboten, sich zu bewegen, oder auch nur auszustrecken, bis zur Mitte des Tages;' bei den Yamana werden die Kandidaten, wenn sie auch nur ein weniges sich ausstrecken, über den ihnen eng zubemessenen Sitz- und Liegeraum hinaus, sofort in die Schranken zurückgewiesen. Mehrfach ist die Rede von einem Kopfschmuck und einem Stab, den die Kandidaten tragen; so bei den Maidu Netzkappen und Federbuschstab; vgl. dazu das 'Diadem' und den Stab, den die Teilnehmer des Ci̯ẹxau̯s bei den Yamana tragen. Bei den letzteren erhält der Kandidat von der Patin als Geschenk u. a. ein dünnes Stäbchen, um sich im Bedürfnisfalle damit zu kratzen; auch bei den Nordwest-Maidu dürfen die Kandidaten sich nur mit Stäbchen kratzen, bei den Huchnom nur mit Knochen, bei den Ost-Pomo nicht mit den Fingern.''[5]

Ich bin zu Ende. Ob das Ergebnis, dass in der Feuerlandkultur und in derjenigen Südostaustraliens eine gemeinsame, natürlich uralte Komponente steckt, der weiteren Forschung standhalten wird oder nicht, wird die Zukunft lehren. Persönlich bin ich wohl davon überzeugt. Aber vom Ergebnis abgesehen, möchte ich besonderen Nachdruck auf das gezeigte Verfahren, auf die Methode gelegt haben. Diese nämlich bietet einen kleinen, wenn auch wohl typischen, Ausschnitt aus der kulturhistorischen oder Graebner'schen Methode, die soviel befehdet, aber wohl, wie ich glaube, noch mehr missverstanden wurde. Ich hege die bescheidene Hoffnung, an einem konkreten Einzelbeispiel gezeigt zu haben, wie es sich da keineswegs um ein wildes, ''uferloses'' Vergleichen handelt, sondern jeder Schritt, den man tut, wohl überlegt, weil methodisch einwandfrei, sein muss.

ST. GABRIEL-MÖDLING BEI WIEN,
ÖSTERREICH.

DISCUSSION

BY A. L. KROEBER

It is possible to carry farther and reverse Doctor Boas' point, namely, that similarities such as those dealt with by Father Koppers may not be positively construed as evidence of historical connection because of the possibility that they are due to convergences analogous to the convergences which are known to have occurred in the organic field. It is true that convergent development in life-forms suggests the prima facie probability of convergence being a factor of importance in culture. However, zoologists have had no serious difficulty, as soon as their studies were sufficiently intensive, in distinguishing the analogous resemblances of convergent developments from the homologous resemblances appearing in the structure of organisms as a whole when common genetic origin is involved. There is every reason to believe that sufficiently intensive and critical examination of cultural resemblances can also normally distinguish between the analogy of convergence and the homology of historical unity or connection.

---

[5] Schmidt, P. W., *Ursprung der Gottesidee,* Band II, Münster, 1928, S. 1023.

Speaking of organic parallels, it is well to remember the point made nearly forty years ago by Ratzel, that the assumption of independent origin, where conviction is not pretty definitely forced by the facts in hand, has about it something similar to the assumption of spontaneous generation by the older zoologists. He contends that an examination in detail from the point of view of a working hypothesis of connection, is normally preferable because it provides at least an explanation which can be tested and corrected, whereas the assumption of spontaneously independent origin generally amounts to falling back on a principle so vague that its effect is the checking of further enquiry of a historical nature. Where a psychological or purely dynamic interpretation of the facts is the only one desired, Ratzel's point, of course, does not apply, but it does seem fundamentally valid for historical interpretation, provided of course investigation is duly critical and comprehensive.

University of California,
Berkeley, California.

DAS BRÜDERPAAR IN DER SÜDAMERIKANISCHEN MYTHOLOGIE

VON MARTIN GUSINDE

DIE auch bei einigen indo-germanischen Völkern vorhandenen Brüder- beziehungsweise Zwillingspaarmythen erfreuen sich in Polynesien und in Amerika einer noch weiteren Verbreitung. Zufolge der etwas allgemeineren Struktur dieser Mythen, im Besitz der verschiedenen Völker, spielen jene beiden Brüder die Rolle eigentlicher Heroen; etwa in der Weise, dass

> ''an Stelle des einzelnen Kulturheros, aber meist ihm selbst oder geradezu als der Sonne entsprossen gedacht, . . . in vielen Mythenkreisen ein Heroenpaar als Träger der mythischen Handlung . . . erscheint. Es übernimmt gewissermassen die Detailarbeit des Schöpfungswerkes, alle die speziell den Menschen interessierenden Tätigkeiten. . . . ''[1]

Für Amerika allein gilt überdies, dass jene Brüdermythen

> ''den Hauptinhalt der ganzen Tradition darstellen und zugleich die Weiterbildung der Naturmythe zu höheren Anschauungen dadurch anbahnen, dass sie ein dualistisches Prinzip in sie hineintragen.''[2]

Die vielen, in der nordamerikanischen Mythologie eingebürgerten Brüderpaare stehen ausserhalb des Rahmens dieser Erörterung; nur die Naturvölker Südamerikas sollen hier Berücksichtigung finden. Doch dies auch nur in dem Sinne, dass von den bekannteren aus ihnen die Zwillingssage sehr knapp skizziert wird und die Übereinstimmungen nebeneinander gereiht werden; um einen grösseren Raum für die ausführlichere Wiedergabe des gleichen Themas, wie ich dasselbe bei den Feuerländern angetroffen habe, freizustellen. Bisher war noch nichts verlautet über das Vorhandensein der Brudermythe bei den genannten südlichsten Stämmen des Kontinentes; wie überhaupt das gegenwärtig vorliegende Sagenmaterial aus jener fernen Gegend als sehr dürftig und lückenhaft sich erweist. Wesentliche Abweichungen der feuerländischen Mythe von der bei andern Südamerikanern über das gleiche Thema bekannt gewordenen erscheinen bei einer Gegenüberstellung in grelles Licht gerückt: Möglicherweise dienen sie der Einsicht in ältere, ursprünglichere Formen der Gebilde, wie eine schaffende Phantasie solche bei ständiger Betrachtung des Naturgeschehens gestaltet; doch wäre auch, ganz im Gegensatz dazu, mit der Wahrscheinlichkeit zu rechnen, dass die Fassung, in welcher die feuerländische Mythe gegenwärtig angetroffen wird, als eine Abänderung, beziehungsweise Umgestaltung der Urform sich erweist. Zu einer diesbetreffenden Entscheidung kann ich mich nicht entschliessen; ebensowenig mache ich Anspruch auf Vollständigkeit beim Aufzählen jener südamerikanischen Stämme, welche des Besitzes der Brudermythe sich erfreuen.

---

[1] Ehrenreich, P. (I), *Die Mythen und Legenden der Südamerikanischen Urvölker und deren Beziehungen zu denen Nordamerikas und der alten Welt,* Berlin, 1905, S. 44.

[2] *Ib.,* S. 45.

Die kulturhistorisch orientierte Ethnologie weist das hier zur Erörterung gebrachte mythologische Thema ganz allgemein der mutterrechtlichen Kultur zu; im besonderen ist zu dieser Begründung Graebner sowohl wie P. W. Schmidt[3] unter Berücksichtigung des australischen Sachverhaltes gelangt, als auch letzterer im besonderen noch beim Studium der südamerikanischen Mythologien.[4]

I. DIE BRUDERMYTHE BEI DEN AUSSER-ANDINEN VÖLKERN

Trotz wesentlicher Übereinstimmung in den Grundzügen der Brudermythe, welche so zahlreiche Völker erzählen, konnte die Ausgestaltung partikulärer Eigenheiten nicht gehemmt werden; sogar innerhalb unserer Südamerikaner trifft man grosse Mannigfaltigkeit der Varianten an. Bevor diese letzteren und der Aufbau der Sage in den geläufigeren Formen kurz zur Sprache kommen, sollen einige jener Stämme aufgezählt werden, von denen eine solche bekannt geworden ist.

1. Bereits Ehrenreich (II, S. 240)[5] hatte darauf hingewiesen, dass ein abschliessendes Urteil über die Herkunft der vielen Formvarianten, mit denen die beiden mythischen Brüder so mannigfaltig bedacht erscheinen, nicht eher ein abschliessendes Urteil gefällt werden kann, bevor dieses Vielerlei bei den verschiedensten Völkern gesammelt und systematisch geordnet ist. Soweit das bis jetzt herbeigeschaffte Material eine vorläufige Sichtung gestattet, tritt das Brüderpaar in folgender Verbindung auf:—

> ''a. Die Brüder sind Sonne und Mond, was der Mythus aber oft dadurch umschreibt, dass er sie zu Schöpfern, Bewahrern, Regulatoren dieser Gestirne macht.
>
> b. Die Brüder sind Hellmond und Schwarzmond, oder abnehmender und zunehmender Mond, wozu manchmal als drittes Wesen noch eine Schwester oder Sonnentochter kommt, die ihrerseits wieder mit Vollmond, Sonne oder Morgenstern in Beziehung steht. . . . Doch kann diese dritte Gestalt auch einem ganz andern Vorstellungskreise angehören. . . .
>
> Wahrscheinlich sekundärer Art ist
>
> c. die Auffassung der Brüder als Venusformen (Morgen- und Abendstern) oder, was auf Amerika beschränkt zu sein scheint, Morgenstern und Merkur. . . .
>
> Ein nicht nur mythisch, sondern vor allem religionsgeschichtlich wichtiges Moment ist das ihres Antagonismus, der sie zu Vertretern entgegengesetzter Prinzipien macht und demgemäss die weitgehendste spekulative Ausdeutung erfahren hat. Der Bruderkampf endet mit der Tötung des Einen durch irgendein magisches Hilfsmittel oder mit einer nur temporären Bändigung und Fesselung.''[6]

Schon jetzt sei erwähnt, dass die feuerländigen Brudersagen von dem hier aufgestellten Schema bedeutend abweichen.

2. Um die Übersicht zu erleichtern—denn dieses Referat will ja an erster Stelle einer Vergleichung dienen—gruppiere ich den Mytheninhalt im Besitz

---

[3] Schmidt, P. W., *Ursprung der Gottesidee,* Münster, 1926, Bd. I, S. 365. Hier sind auch die Arbeiten von Graebner genannt.

[4] Schmidt, P. W. (I), Kulturkreise und Kulturschichten in Südamerika, *Zeitschrift für Ethnologie,* Bd. 45, Berlin, 1913, S. 1102.

[5] Ehrenreich (II), *Allgemeine Mythologie,* Leipzig, 1910.

[6] Ehrenreich (II), S. 238.

der verschiedenen Stämme nach seinen besonders auffälligen Teilen, beziehungsweise nach den Besonderheiten, welche an der Person der Brüder bemerkbar sind. Auch hierin folge ich den bereits von Ehrenreich[7] eingenommenen Gesichtspunkten. Die andinen Kulturvölker und die durch deren Sonnenkult beeinflussten Nachbarstämme werden im Folgenden nicht berücksichtigt.

a. Die Brudermythe lässt sich u.a. bei folgenden Stämmen nachweisen:

Bei den Mundruku, welche von ihrem *Karu-Sakaebé* als einem Kulturbringer-Gott sprechen. Zwar hat dieser nur einen Sohn, namens *Karataú,* als dessen ständiger Begleiter, nach Art eines Bruders, *Rayrú,* bezeichnet wird.

Bei den Tembé, von denen einer der Zwillinge als Sohn des *Maíra,* der andere als Sohn des *Mykura* betrachtet wird.[8]

Bei den Šipaia, bei welchen die soeben genannte Person als *Mukura* erscheint. Von den beiden Brüdern *Arubiatá* und *Kuñarima* erweist sich der erstgenannte als der Dumme, Ungeschickte, Tölpelhafte.[9]

Bei den Tupinamba, welche ebenfalls den einen Zwilling als Sohn des *Maire-atá,* auch *Maire-monan-atá* genannt, ausgeben; den andern jedoch als Sohn eines gewöhnlichen Mannes.

Bei den Apapocúva-Guaraní, in deren Mythologie sich die Gestalt des *Nanderuvuçu* = "unser grosser Vater" findet, welcher "man in Anbetracht ihrer Stellung und Tätigkeit den Titel eines Gottes unmöglich vorenthalten kann." Von dessen Gehilfen, *Nanderu Mbaecuaá,* welchem göttlicher Charakter nicht zukommt, wird *Nandecý* = "unsere Mutter," ein gewöhnliches Weib, schwanger und schenkt einem Zwillingspaar das Leben. Die genannten drei Personen waren die ersten Bewohner der Erde und während jene Frau von Tigern gefressen wird, retten sich die Zwillinge auf wunderbare Weise. Diese letzteren besitzen eigentlich keine Personennamen; in der Umschreibung heisst der als Sohn des *Nanderuvuçu* gedachte: *Nanderyqueý,* der als Sohn des *Mbaecuaá* ausgegebene: *Tyuýry.* Jener, der ältere, ist seinem jüngeren Bruder bei weitem in allem voraus.[10]

Bei den Guaraní in Paraná, deren Mythe zufolge Jaguare eine Frau auffrassen, welche ein Zwillingspaar unter ihrem Herzen trug; durch ihre Geschwindigkeit retteten sich die beiden Brüder. Der ältere hiess *Derekey,* der jüngere *Derevuy.*[11]

Bei den Chiriguano, welche in ihren Mythen den Gegensatz zwischen den beiden Partnern *Tatu-tunpa* und *Aguaru-tunpa* deutlich erkennen lassen.[12]

---

[7] Ehrenreich (I), S. 44.

[8] Mitgeteilt als vollständige Mythe von Nimuendajú: Sagen der Tembé-Indianer, *Zeitschrift für Ethnologie,* Bd. 47, Berlin, 1915, S. 281.

[9] Diese Sage berichtet erstmalig und sehr ausführlich Nimuendajú: Bruchstücke aus Religion und Überlieferung der Sipaia-Indianer, *Anthropos,* Bd. XVI–XVII, 1921–22, S. 1016.

[10] Bei Nimuendajú: Religion der Apapocuva-Guarani, *Zeitschrift für Ethnologie,* Bd. 46, Berlin, 1914, S. 316 welcher diese Mythe aufgezeichnet hat, finden sich weitere Einzelheiten.

[11] Aufgezeichnet in aller Ausführlichkeit von Borba, T., *Actualidade indigena, Paraná-Brasil,* Coritiba, 1908. In kürzerer Fassung wiedergegeben von Frič, V., Las religiones de los indios de la cuenca del Plata, *Actas del XVII Congreso Inter. de Americanistas,* Buenos Aires, 1912, p. 480. Ins Deutsche übersetzt von Koch-Grünberg, *Indianer-Märchen aus Süd-Amerika,* Jena, 1921, S. 213.

[12] In kompletter Fassung bei Nordenskiöld, E., *Indianerleben,* Leipzig, 1912, S. 264. Vgl. auch die Deutung, welche De Nino, Bernardino, *Etnografía Chiriguana,* La Paz, Bolivia, 1912,

Ausserdem zitiert Ehrenreich (I, S. 45) noch die Mythe von *Tamendonare* und *Arikuté* als Besitztum der Tupi; ferner die Sage von den beiden Heroensöhnen des *Abuangui,* welche die Guarayú erzählen.

Sämtliche, bisher genannten Stämme zählen zur weitverbreiteten Tupi-Gruppe.[13] Einer vergleichenden Untersuchung steht der Umstand überaus hinderlich im Wege, dass von den vielen weiteren, ihr ebenfalls angehörigen Stämmen für unser Thema verwertbares Material nicht vorliegt.

Die den Guarayú benachbarten, an den Ostabhängen der Cordillera westlich von Santa Cruz de la Sierra wohnhaften Yurakáre erzählen eine Mythe vom Brüderpaar namens *Tiri* und *Karu.* Letzterer wird aus einem Nagel des ersteren geschaffen, ist also gleichsam dessen Sohn. Doch tragen beide Heroen deutlichen solaren beziehungsweise lunaren Charakter.[14]

Nicht weit entfernt von diesem, sprachlich isoliert dastehenden Volke, allerdings im Mato Grosso-Gebiet, konnte Karl von den Steinen bei dem Karaibenvolk der Bakairí die Mythe vom *Keri* und *Kame* aufzeichnen. Dies

> ''sind die Namen für Mond und Sonne der Nu-Aruakstämme, sie sind gar keine karaibischen Wörter. Ein Zufall ist völlig ausgeschlossen, weil die beiden Namen immer zusammengehen, sowohl als Mond und Sonne bei den Nu-Aruak, wie in der Bakairí-Legende, wo die beiden Helden Zwillinge sind. Nur ist *Kéri* Mond und *káme, kámu* Sonne, während in der Bakairí-Legende *Keri* die Hauptperson ist, *Kame* gewöhnlich den 'Dummen' spielt, und *Keri* die Sonne, *Kame* den Mond zuerteilt bekommt.''[15]

Ehrenreich (I, S. 45) nennt diese Mythe ''sehr typisch und auf ganz primitiven Anschauungen beruhend.''

Die Warraú, möglicherweise Reste einer Urbevölkerung und sesshaft im Orinocodelta, besitzen ebenfalls ihre besondere Sprache. Sie erzählen in der reizenden Mythe über: Die Sonne, der Frosch, und die Feuerhölzer, wie das wunderschöhne Knabenpaar *Makunaíma* und *Pia* dadurch ins Dasein traten, dass die alte *Nanyobo* den Leib von deren Mutter aufschlitzte, als diese nach dem Essen einer Laus tot niedergesunken war. Aber zufolge Koch-Grünberg (*op. cit.,* S. 314) ist diese Sage offenbar ''den Warrau erst von den karaibischen Nachbarn überkommen'';[16] denn die Karaiben in Britisch Guyana erzählen dieselbe mit wesentlicher Uebereinstimmung.

In der Mythologie der Arekuná erweist sich *Makunaíma* als ''der verschlagendste und zauberkräftigste'' seiner Brüder, beziehungsweise seines älteren

---

p. 131, den genannten beiden Persönlichkeiten gibt. Später erwähnt Nordenskiöld, E., *Forschungen und Abenteuer in Südamerika,* Stuttgart, 1924, S. 21, nochmals die beiden Fuchsdämonen Aguaratunpas.

[13] Die bisher namhaft gemachten Mythen der Tupi-Stämme hat Métraux, *La religion des Tupinamba et ses rapports avec celle des autres tribus tupi-guarani,* Paris, 1928, p. 31, in einem besonderen Kapitel, überschrieben mit: *Les Jumeaux Mythiques,* einer systematischen Analyse unterzogen.

[14] Vgl. Koch-Grünberg, *op cit.,* S. 275, der diese Mythe in deutscher Sprache wiedergibt.

[15] von den Steinen, Karl, *Unter den Naturvölkern Zentral-Brasiliens,* Berlin, 1894, S. 364. Wiedergegeben und mit Anmerkungen versehen von Koch-Grünberg, *op. cit.,* S. 216.

[16] Aufgezeichnet von Roth, Walter E., An Inquiry into the Animism and Folklore of the Guiana Indians, *Thirtieth Annual Report, Bureau of American Ethnology,* Washington, 1915, p. 130. Verdeutscht von Koch-Grünberg, *op. cit.,* S. 7.

Bruders *Zigé*. Zwar erscheinen fast nur die beiden Genannten in der mythischen Handlung; aber die Ausschliesslichkeit des alleinigen Brüderpaares fehlt denn doch.[17]

In den Sagen der Taulipang erscheint neben dem tölpelhaften, prahlerischen Charakter des *Makunaíma* dessen besonnener Bruder *Man'ape.* Der Inhalt dieser im Besitz der beiden letztgenannten Stämme befindlichen Brüdersage lässt vermuten, dass auch diese “auf einen Naturmythus zurückgeht, der das Verhältnis von Sonne und Mond zueinander, ihren gemeinsamen und wieder getrennten Lauf zum Gegenstande hat.”[18]

Als hierher gehörig bezeichnet Ehrenreich (I, S. 45) auch die Sage von *Amalivaka* und seinem Bruder *Vochi,* welche sich im Besitze der Tamanaken findet.

Bei den Uitoto erzählt man sich die Mythe von *Hitoma* und *Mánaidehitoma* = Sonne und Mond. Letztere sind ebenfalls verbrüdert und manche andere Züge aus den oben aufgezählten Sagen wiederholen sich hier; weswegen darauf hingewiesen sei.[19]

Während die oben genannten Stämme der Tupi-Gruppe zugewiesen worden sind, erweist sich ein Teil der andern als Karaiben. Eine in kultureller und sprachlicher Hinsicht isolierte Stellung nehmen die Yurakaré ein. Im grossen und ganzen verdienen es sowohl die Tupi als auch die Karaiben, dem freimutterrechtlichen Kulturkreise oder der Bogenkultur zugewiesen zu werden. Die der letzteren charakteristische Mythologie herauszustellen ist bisher noch nicht versucht worden. Aus einem Vergleich mit jener der Zweiklassenkultur eigentümlichen Mythologie kommt P. W. Schmidt (I, S. 1102) zu dem Schluss,

> “dass in der freimutterrechtlichen Kultur auch von diesen Grundzügen einer Mondmythologie noch manches erhalten geblieben ist. Das finden wir nun in der Tat auch hier bestätigt.”

3. Bei einer Analyse der Brudermythe, wie Ehrenreich (I, S. 46) in grossen Zügen und Métraux (*op cit.,* S. 31) mit tieferem Eindringen sie versucht hat, ergibt sich, dass die beiden Persönlichkeiten vereinzelt als Zwillinge, vereinzelt als Halbbrüder erscheinen.

Seine Abstammung leitet das Brüderpaar gewöhnlich von der Sonne her. Teilweise ist der Sonnenmann selbst oder der Kulturheros solaren Charakters ihr Vater; zum mindesten rechnet die Mutter zur Sonnenfamilie. In letzterem Falle ist die Herkunft des Vaters unbestimmt, sofern er nicht ein lunares Wesen darstellt.

Immer aber berichtet die Mythe von einer geheimnisvollen Schwängerung der Mutter, bei welcher der Sonnenmann näher oder entfernter beteiligt erscheint. Die Empfängnis erfolgt dann zumeist durch Verschlucken irgendeines Gegenstandes.

Nicht minder allgemein ist die Art und Weise, in welcher der vorschnelle Tod der Mutter sich ereignet. Bereits vor der Niederkunft wird sie gewöhnlich von einem Jaguar zerrissen und getötet, während die noch ungeborenen Kinder sich retten. Unter der Obhut einer Jaguarmutter wachsen diese auf und entwickeln sich in ihren erzwungenen, aussergewöhnlichen Lebensverhältnissen ganz gut.

---

[17] Ausführlich bei Koch-Grünberg, *Vom Roroima zum Orinoco,* Stuttgart, 1924, Bd. II, S. 6.

[18] *Ib.,* S. 7.

[19] Mitgeteilt von Preuss, *Religion und Mythologie der Uitoto,* Göttingen, 1921, S. 51.

Konsequenterweise bleibt die Weiterführung der Erzählung zu dem Motiv nicht aus, dass die herangewachsenen Brüder gelegentlich den an ihrer Mutter verübten Tod rächen. Auf verschiedene Weise gehen sie dabei vor; sei es, dass die Mörder in Tiere verwandelt oder unmittelbar getötet werden. In den inhaltsgleichen Mythen aus Nordamerika fehlt überraschenderweise ein ausgesprochenes Rachemotiv, wie auch die Tötung der Mutter des Brüderpaares. Dafür aber treten die beiden Heroen als Kämpfer gegen die in der Welt hausenden Ungeheuer auf und vernichten sie.

Aus dem hochgesteigerten Antagonismus, welcher die beiden Brüder voneinander trennt, erfliessen psychologisch die Tendenzen zum Auswirken ihres Könnens in mannigfachen Kraftproben. Sehr verschiedene, für Südamerika teilweise spezifische Motive, treten dabei in den Vordergrund; so dasjenige der Pfeilkette, des Tierfanges, der Verbrennung, des Stachelsitzes, und der Symplegaden.

Selbstverständlich fehlt auch nicht der in Zwillingsmythen häufig wiederkehrende Bruderzwist, der dann gewöhnlich ausbricht, nachdem sie ihre Aufgabe erfüllt haben. Aus der Verschiedenheit ihrer charakterlichen Anlagen wird der ursprüngliche und prinzipielle Gegensatz zwischen beiden hergeleitet. . . . Es würde zu weit führen, noch auf die verschiedenartigen Taten näher einzugehen, wie sie einem jeden der beiden, vor allem dem Jüngeren beziehungsweise dem Tüchtigeren, zugesprochen werden.

Die Kennzeichnung des Brüderpaares als erste Anfänge einer dualistischen Weltanschauung, sowie die genauere Analyse des Naturmythus, welcher den Gegensatz von Sonne und Mond in den beiden Brüdern verkörpert, ist bereits ausreichend durch Ehrenreich (I, S. 52) erfolgt. Um aber wenigstens die kulturhistorische Wertung beziehungsweise Einreihung dieser Brudermythen kurz zu erwähnen, soll das Untersuchungsergebnis noch wiedergegeben werden, zu dem P. W. Schmidt (I, S. 1104) gelangt ist:—

> ''Es stellt sich nämlich heraus, dass die beiden Zwillinge fast überall nicht Hellmond und Dunkelmond darstellen, wie es nach der reinen Mond-mythologie zu erwarten wäre, sondern Sonne und Mond. . . . Man könnte nun denken, dass gerade hierin der Unterschied und die Eigentümlichkeit der Bogenkultur gelegen sei, dass bei ihr das mythische Brüderpaar, nicht wie in der Zweiklassenkultur, Hellmond und Dunkelmond, sondern Sonne und Mond darstelle. Aber zu der Tatsache, dass wir es hier fast ausschliesslich mit Mythen von südlichen und Tupi-Stämmen zu tun haben, kommt noch hinzu, dass der ganze Charakter der Mythen eine bemerkenswerte Präponderanz der Sonne und eine Herabminderung des Mondes, selbst Feindschaft gegen denselben, offenbart. Hierhin gehört, dass zumeist die Sonne der ältere oder der weisere, bessere und mächtigere Bruder ist; ebenso sind die ganze Reihe der Proben, welche die Brüder durchzumachen haben, . . . alle solarer Natur. Bemerkenswert ist auch die Feindschaft gegen den Jaguar, dieses ausgesprochen lunarmythologische Tier. . . . Man könnte also glauben, dass hier in eine ursprünglich reine Sonnenmythe nur nachträglich auch der Mond zugelassen sei, dem die erstere ursprünglich feindlich gegenüber stand!''

II. Die Brudermythe bei den Feuerländern

Das im ersten Teile dieser Abhandlung vorgelegte Material, eingesammelt von verschiedenen Forschern, war bereits mehr oder weniger bekannt. Wie unser

Wissen um die Mythologie der Feuerländer ganz im allgemeinen als ein sehr lückenhaftes sich erwies, so war speziell über eine Brudersage entweder gar nichts oder nur vom Stamm der Selk'nam ein bruchstückartiger Ausschnitt berichtet worden. Was ich im äussersten Süden des amerikanischen Kontinentes auf meinen vier Reisen während der Jahre 1918–1924[20] über diesen Gegenstand in Erfahrung gebracht habe, soll in knapper Fassung und in übersichtlicher Zusammenstellung nun folgen. Tiefeinschneidende Gegensätze zu den vorher aufgezählten Mythen geben sich mit überraschender Klarheit von selber zu erkennen.

Des leichteren Vergleiches wegen soll der Mythenschatz eines jeden Stammes getrennt von dem seines Nachbarn vorgelegt werden. Bei den Halakwulup[21] waren meine diesbezüglichen Erkundigungen so wenige nur, dass sich dieselben in einem einzigen Satze zusammenfassen lassen; ausführliche Berücksichtigung finden demnach allein die beiden andern Stämme der Selk'nam und Yamana.

a. Bei den Selk'nam. Man erhält im längeren Verkehr mit diesen Indianern den untrüglichen Eindruck, dass die Persönlichkeit des *Kwányip* allen Erwachsenen ausreichend bekannt ist. Manche Mitteilungen über diesen Heros fanden sich bereits bei früheren Autoren;[22] doch glaube ich dieselben wegen ihrer Unvollständigkeit an dieser Stelle hier übergehen zu sollen.

1. Allgemeines über die Weltanschauung der Selk'nam:[23] Um die Stellung und das Wirken des *Kwányip* zu verstehen, sei kurz wiederholt, dass nach Ansicht unserer Eingebornen lange vor dem Beginn alles irdischen Seins der mit Ewigkeitsqualitäten ausgestattete, gleichsam allmächtige *Temáukel* anwesend war. Er ist es, welcher die Heimat der Selk'nam ursächlich begründet hat, ohne ihr indes eine Gestaltung oder Gliederung zu geben. Nur die undifferenzierte Erde und das sternenleere Himmelsgewölbe stellte er her. Erst in seinem Auftrage erfolgte die Bildung der Gebirge und Flüsse, Wolken und Winde durch *Kenós,* den ersten *hówenh* (= Ahne oder Vorfahre der eigentlichen Menschen).—Daneben führte er, als durch ihn die Erde bevölkert worden war, die noch heute bestehende soziale und ethische Ordnung ein. Damals gab es ein eigentliches Sterben noch nicht; denn wer altersmüde war, überliess sich vielmehr einem kurzen, tiefen Schlafe und erhob sich aus demselben nach drei bis vier Tagen. Sofort stellte er sich dem *Kenós* vor, der jedermann einer Waschung unterzog; womit eine Verjüngung der Lebenskraft gegeben war. Wer wenige Male durch jenen tiefen Schlaf und die nachfolgende Waschung sich im Dasein erneuert hatte, fühlte aber schliesslich doch so etwas wie Lebensüberdruss und Unlust an einem längeren Dasein; wieder überliess er sich einem tiefen Schlafe und, anstatt wie bisher aus

---

[20] Vgl. Gusinde, Meine Forschungsreisen ins Feuerland und deren Ergebnisse, *Mitteilungen der Anthropologischen Gesellschaft in Wien,* Bd. 55, 1925, S. [15]–[30].

[21] An dieser Stelle, wie ich dies bereits in meinen weiteren Arbeiten getan habe, wähle ich jene Formulierung der Stammesnamen, welche ich von den Eingebornen selber erfahren habe. So sage ich: Halakwúlup statt Alakaluf, Alikulip; Yámana statt Yahgan; Sélk'nam statt Ona.

[22] Erwähnt sei vor allem Cojazzi, *Gli Indii dell' Arcipelago Fueghino,* Torino, 1911.

[23] Ausführlicher habe ich diesen Gegenstand behandelt unter dem Titel, Elemente aus der Weltanschauung der Ona und Alakaluf, *Compte-Rendu, XXI Congrès International des Américanists,* Göteborg, 1925, pp. 123–147. Vgl. dazu auch Koppers, Mythologie und Weltanschauung der Yagan, *ib.,* pp. 113–122.

demselben sich zu erheben, wandelte er sich in ein Naturding um; meist in einen Berg oder Felsen, ohne jedoch in dieser neuen Gestalt sein Leben zu beenden. Auch die Entstehung jener Vormenschen geht ursächlich auf *Kenós* zurück; denn er bildete aus Moorboden durch Auspressen des braunen Wassers zwei verschiedengeschlechtliche Genitalien und legte beide nahe nebeneinander. In der Nacht erfolgte eine Vereinigung derselben, woraufhin ein neues Wesen ins Dasein trat. Später vermehrten sich allmählich jene Ahnen in der Weise, wie dies bei den eigentlichen Menschen üblich ist. Schnell bevölkerte sich die Selk'nam-Heimat. Der alte Sonnenmann, Vater der jetzigen Sonne, war auch schon hinaufgestiegen ans Firmament; lange vor ihm bereits *Kenós* und viele andere Ahnen.

2. Die Familienverhältnisse des Heros: Da taucht in dieser mythologischen Periode plötzlich und unvermittelt *Kwányip* auf; von Norden her kommend tritt er ein in das Gebiet der Selk'nam. Als seinen Vater nennt man den alten *Há'īl,* welcher mit *Kášmen* verheiratet war. Ein persönlicher Feind des *Há'īl* hatte es zustande gebracht, dass dieser in völliger Unwissenheit mit seiner eigenen Tochter dem *Kwányip* das Leben gab. (Motiv der aussergewöhnlichen Geburt). Des letzteren älterer Bruder hiess *Aukménk.* Es wird nicht berichtet, dass sie beide auch Zwillinge gewesen wären; überhaupt ist den Selk'nam keine einzige Zwillingsgeburt bekannt. Die ältere Schwester der genannten beiden Brüder, welche gleichzeitig des *Kwányip* Mutter war, sodass eine Besonderheit bei seiner Geburt nicht fehlt, hiess *Akelkwóin.* Weder sie selber noch der ältere Bruder machen sich durch auffällige Taten bemerkbar. Dafür aber werden häufiger die beiden *Sasán* genannt, Söhne des *Aukménk* und somit Neffen des *Kwányip.* Des letzteren Eltern und Bruder wandelten sich später um in Gebirge, welche man heute noch zeigt.

3. Dessen Herkunft: Wie bereits angedeutet, entstammt dieser Heros nicht der Selk'nam Gruppe. Mit solch bestimmter Deutlichkeit verlegt man die Heimat jener Familie und somit des *Kwányip* selbst weit hinauf in den Norden, also in das eigentliche Festland, dass über den Sinn dieser Behauptung nicht der mindeste Zweifel bestehen kann. *Kwányip* wird auch allgemein als Fremdling, als Eindringling betrachtet. Anfänglich kam er von Norden her in das Selk'nam Gebiet, trieb mit sich eine Herde zahmer Guanacos und sobald diese für seine eigene und die seiner Familie Ernährung aufgebraucht war, ging er in seine eigene Heimat zurück, um andere Nahrungstiere sich zu holen. Erst später verblieb er dauernd, bis zur Beendigung seiner Lebenslaufbahn, in den heimatlichen Grenzen dieser Indianer, unter ihnen lebend.

4. Dessen Taten: Die Gliederung der Erde, die Bildung der ersten Menschen als Anfang der gesamten Bevölkerung und die Einrichtung der sozialen wie ethischen Ordnung erfolgte auf Geheiss des *Temáukel* durch *Kenós.* Dieser letztere also muss betrachtet werden als der eigentliche Kulturbringer, als der "Transformer." Insofern *Kwányip* die bestehenden Verhältnisse abänderte und in die geltende Ordnung eine teilweise Umkehrung hineinbrachte, darf man ihn als "Heros" bezeichnen.

Mit grosser Genugtuung rühmen die Leute ihm die unschätzbare Wohltat nach, das gesamte Selk'nam Volk vom gefährlichen Menschenfresser, *Čáskels,* befreit zu haben.

In damaliger Zeit war die Nacht sehr kurz; etwa eine halbe Stunde nur hielt die Finsternis an. Eine solch disproportionierte Verteilung von Helligkeit und Dunkelheit passte dem *Kwányip* selbst ebensowenig wie seinen Zeitgenossen; er brachte deshalb beide auf etwa die gleiche Länge, sodass die Nacht jetzt ausreichend anhält.

Bis hieran überliess sich jeder von dem Ahnen, welcher eine Art Altersschwäche spürte, einem tiefen, etwa viertägigen Schlafe, um danach sich waschen zu lassen und in dieser Verjüngung seinen Lebenslauf neu zu beginnen. An Stelle des *Kenós* hatte *Čénuke* das Waschen weitergeführt. Aber dem *Kwányip* gefiel diese Einrichtung nicht. Als gelegentlich sein eigener Bruder sich wieder zu jenem tiefen Schlafe niedergelegt hatte, da hinderte er ihn daran, sich abwaschen zu lassen, um dadurch sich neu zu beleben. So blieb also dessen älterer Bruder liegen und stand nie mehr vom Schlafe auf: Mit diesem Akte war das eigentliche Sterben eingeführt; wer jetzt zu tiefem Schlafe sich niederlegt, der steht nie mehr auf! Die Zeitgenossen *Kwányip's,* welche also noch *hōwenh* waren, wandelten sich einer nach dem andern in irgendwelches Naturding um; die ihnen nachfolgenden Generationen sind, eben weil sie wirklich sterben, die eigentlichen Menschen.

5. Dessen Persönlichkeit: Über seine aussergewöhnliche Abstammung hinaus weiss man aus *Kwányip's* Jugend nichts zu berichten.

Ganz allgemein beurteilt man ihn als einen extrem sinnlichen Gesellen. Dieser Umstand erklärt es auch, weshalb die Frauen unterschiedslos nur ungern von ihm sprechen. Er gilt auch als erster Anlass zur weiblichen Menstruation; leider ist mir eine bestimmte Erzählung darüber nicht geboten worden.

Aufs schwerste verurteilt man seine rücksichtslose Selbstsucht; hat er doch nie von seinen reichen Herden auch nur ein einziges zahmes Guanaco an die auf der Isla Grande beheimateten Indianer abgegeben und sogar seine eigenen Neffen hungern lassen.

Aus seiner Sonderstellung allen Selk'nam gegenüber ist er eigentlich niemals herausgetreten. Von dessen älterem Bruder oder der Schwester der Beiden ist niemals der mindeste Einfluss ausgegangen; in den üblichen Erzählungen werden sie kaum erwähnt.

Voll Trauer über den Tod seiner Schwester, welcher von *Čénuke* veranlasst worden war, bemalte er sich über und über mit roter Farbe. Gleichzeitig mit all seiner Familie stellte er sich bald danach ans Firmament, wo man ihn heute noch beobachten kann als Betelgeuze und α Orionis, umgeben von seinen beiden Frauen und seinen beiden Neffen *Sasán,* sowie deren Mutter. Der rote Glanz dieses Sternes wird als Trauerbemalung interpretiert.

Sehr auffällig erscheint es, dass *Kwányip* nicht in irgendwelchen Zusammenhang mit Sonne oder Mond gebracht wird. Diese beiden rechnet man zwar auch zu den Ahnen; ob sie aber früher oder später als *Kwányip* auf dieser Erde weilten, das gibt die Mythologie nicht an; schwerlich kann man diese drei als Zeitgenossen ausgeben.

b. Bei den Yamana. Bisher ist von einer Brudermythe im Besitze dieses südlichsten Stammes der Feuerländer nicht das mindeste berichtet worden. Um so überraschender war es für mich, bereits auf meiner zweiten Reise (Anfang 1920) über die Brüder *Yōálox̣* sehr ausführliche Mitteilungen zu erhalten.

1. Allgemeines über die Weltanschauung der Yamana: Solch klare und in zeitlicher Folge geordnete Vorstellungen über den Beginn und die Ausgestaltung dieser Erde und der Menschheit, wie ich sie bei den Selk'nam angetroffen habe, sucht man bei diesem Stamme vergebens. Übereinstimmend mit jenen Indianern findet man indes auch hier die Anerkennung eines Höchsten Wesens, das als reiner Geist betrachtet wird; doch bestehen etwas unklare Begriffe über seine Betätigung als Schöpfer, wenngleich er als Besitzer aller sichtbaren Dinge gilt. Gross ist der Reichtum an Mythen, welche die Yamana sich gern und oft erzählen. Ausserdem gibt es hier eine allgemein verpflichtende Jugendweihe und eine davon getrennte geheime Männerfeier, welche meines Erachtens bei den Selk'nam zu einer einzigen Institution, Kloketen genannt, zusammengeflossen sind.[24] Daneben und völlig unabhängig existiert noch die gelegentlich anberaumte Schamanenschule.

Wenn auch das Höchste Wesen, namens *Watau̯inḗwa, Hitapuan,* etc., als Urheber des gesamten Sittengesetzes und dessen Rächer anerkannt wird, so sieht man doch keine Verbindung seiner Person mit den gar oft genannten Vorfahren, noch viel weniger mit dem Heroenpaar.

2. Deren Familienverhältnisse: Die Herkunft der *Yōálox̣*-Familie bleibt in völliges Dunkel gehüllt; man begnügt sich mit dem Hinweis, dass sie zu den ersten Menschen gehören. Wohl wird die Mutter der beiden Heroen erwähnt, nicht aber deren Vater. Allgemein spricht man nur von dem älteren und dem jüngeren *Yōálox̣;* als Zwillinge aber werden sie nicht betrachtet. Viel klüger und gewandter, deshalb später viel einflussreicher erweist sich wiederum der jüngere. Ihre Schwester aber übertrifft die beiden Brüder noch an Intelligenz und Geschicklichkeit; sie ist es letzten Endes, welche ihren Brüdern die besten Vorschläge macht, welche diese selber nachher mit Erfolg zur Ausführung bringen. Deshalb fragten die Brüder sie immer und immer wieder um Rat, und erbaten sich ihre Anweisungen. Doch allmählich trat die *Yōálox̣ Tarnux̣ipa* etwas in den Hintergrund und beliess ihre jüngeren Geschwister in völliger Aktionsfreiheit.

3. Deren Herkunft: Die *Yōálox̣*-Familie rechnet zu den ersten Menschen, also zu den ältesten Vorfahren des Yamana-Volkes. Bevor sie jedoch in dieser Gegend hier landete, hatte sie lange und anhaltende Wanderungen durch die grosse weite Welt vollführt. Hierselbst verblieben sie schliesslich, um die eigentlichen Yamana, die bald danach diese Gegend am Canal Beagle bevölkerten, in der praktischen Lebensführung zu unterrichten. Sie waren es, welche den Menschen brauchbare Waffen, Gerätschaften, und Werkzeuge anfertigten, sowie ihnen deren Gebrauch und Handhabung zeigten.

4. Deren Leistungen: Bei allem was die *Yōálox̣* an Vorteilhaften den Menschen geboten haben, betätigten sich die beiden Brüder gleichzeitig; in der Weise nämlich dass der Ältere die ersten Versuche begann und der intelligentere, geschicktere Jüngere eine wesentliche Vervollkommnung und Verbesserung anbrachte. Ständig wiederholt sich der zwischen beiden bestehende Antagonismus.

---

[24] Vgl. Gusinde, M., Männerzeremonien auf Feuerland und deren kulturhistorische Wertung, *Zeitschrift für Ethnologie,* Bd. 58, Berlin, 1926, S. 261–312.

Von unschätzbarer Bedeutung war die Erfindung des Feuers; diese gelang dadurch, dass dem Feuerstein die ersten Funken vom älteren Bruder entlockt wurden. Weil dieses Element von solch allgemeinem Nutzen sich erwies, wollte der ältere *Yōálox* ihm das Vermögen geben, nie mehr auszugehen. Aber dieser Plan gefiel dem jüngeren Bruder nicht; er machte das Feuer erlöschen und daraus ergab sich für die Menschen der Zwang, nach Bedarf mit vieler Mühe sich Feuer durch Schlagen neuerlich herzustellen.

Beide Brüder wurden allgemein als tüchtige Handwerker geschätzt. Unter anderem ersannen sie selber die Pfeilspitze und auch die Harpunenspitze. Doch waren diese Dinge insofern unvollkommen, als die Widerstandszacken fehlten. Erst als die Schwester deren Ausarbeitung angeraten hatte, erwiesen sich die für den täglichen Gebrauch berechneten Waffen als zulänglich und wirkungsvoll.

Mit Übergehung weiterer Taten sei noch daran erinnert, dass der jüngere *Yōálox* die monatliche Blutung für den weiblichen Bevölkerungsteil eingeführt hat. Von schweren Folgen aber ist der durch ihn veranlasste Beginn des Sterbens für alle Menschen. Einst hatte sich die Mutter der beiden Brüder zu tiefem Schlafe niedergelegt und starren Blickes schaute der ältere von ihnen sie unabwendbar an. Infolgedessen begann sie wieder langsam sich zu regen, als ob ihr das Bewusstsein und Leben zurückkäme. Sofort machte er davon seinem jüngeren Bruder freudige Mitteilung. Der aber wurde ernstlich verstimmt und sagte sofort: "Die Mutter schläft jetzt und soll schlafen für immer!" Tatsächlich erhob sie sich nicht mehr; und seitdem steht niemand wieder vom Todesschlafe auf.

5. Die Persönlichkeit der Heroen: So sehr man auch die Wohltaten und Erfindungen schätzt, welche sie gebracht haben, dennoch verliert der jüngere *Yōálox* viel an Sympathie und Wertschätzung durch seine stark erotische Veranlagung. Über ein enges Zusammenleben der *Yōálox*-Familie mit ihren Zeitgenossen berichtet allerdings die Mythe nur wenig. Immer wieder aber werden die beiden Brüder als tüchtige Handwerker und geschickte Männer bestaunt.

Später gingen die beiden *Yōálox* zum Firmament hinauf und stehen dort als Sterne am Nachthimmel.

c. Bei den Halakwulup: Der Vollständigkeit halber muss ich noch nachtragen, dass ich auch bei dem im westpatagonischen Inselgebiet beheimateten Stamme der Feuerländer die wennzwar wenig und nur in blassen Zügen hervortretende Gestalt eines Brüderpaares angetroffen habe.

Ihr Name, *Yálok-ĕksis,* verrät einen deutlichen Anklang an die Benennung der Heroen bei den Yamana.

Auch sie zählen zur allerältesten und ersten Bevölkerung dieses Gebietes und werden als wirkliche Stammesmitglieder betrachtet. Niemand weiss, woher sie gekommen sind. Am häufigsten lebten sie bei der Zentralgruppe dieses Stammes; ein jeder hatte sein Weib bei sich und schliesslich trennten sie sich, wobei der eine in nördliche, der andere in südliche Gegenden zog.

Weil das Mythenmaterial der Halakwulup überhaupt ein überaus dürftiges ist, so war über die Brüdersage nur wenig mehr als das Gesagte zu ermitteln.

Sofern auch nur die Brudermythen im Besitze der Selk'nam und Yamana mit einander verglichen werden, folgert daraus allein in manchen Motiven eine Übereinstimmung völliger Identität. Diese weist unausweichlich auf historische Zusammenhänge, beziehungsweise auf eine Übernahme aus der gleichen Quelle hin; die aber um so geringer sich ausfindig machen lässt, als wesentliche Motive in den Brudermythen der übrigen südamerikanischen Naturvölker von denen der Feuerländer abweichen. Den kurzen Hinweis darauf aber möchte ich nicht unterlassen, dass die Persönlichkeit der beiden Heroen manche, unverkennbare mondmythologische Motive aufweist; erinnert sei beispielsweise an das Aufstehen von einem tiefen Schlafe vor der Einführung des eigentlichen Todes. Wenn jene Beiden jetzt als Sterne am nächtlichen Himmelszelte bezeichnet werden, so handelt es sich dabei nur um eine spätere Umdeutung der ursprünglichen Idee.

Trotzdem aber wäre es eine lohnende Aufgabe, Beziehungen an die nordamerikanischen Mythen gleichen Themas anzuknüpfen, wie dies früher Ehrenreich(I) und neuerdings P. W. Schmidt[25] versucht haben. Die Fassung und Ausgestaltung der Brudermythe unserer Feuerländer schliesst sich am engsten den Besonderheiten an, welche die Brudermythe der Zentral-Algonkin erkennen lässt.

MÖDLING-ST. GABRIEL BEI WIEN,
ÖSTERREICH.

---

[25] Vgl. Schmidt, P. W., *Ursprung der Gottesidee,* Bd. II, Münster, 1928.

THE BLOWGUN IN AMERICA, INDONESIA, AND OCEANIA[1]

By NOEMIE G. SPRINZIN

IN confirmation of his theory of the migrations of the Malayo-Polynesian and American peoples, the well-known French savant, Paul Rivet, mentions a series of resemblances observed in these groups with respect to language and ethnography. Among a great number of objects of material culture he lists the blowgun which is used by some of the tribes belonging to the groups mentioned above. Thus in his work *Les Malays-Polynésiens en Amérique* he says that "in Malay-Polynesia and in America almost identical forms of sarbacands have been found."[2]

This type of weapon has often been described by various authors, but up to the present time no comparative ethnological description has appeared. My task is to give such a description of the *sarbacana-sumpitan*,[3] based on the collections of the Museum of Anthropology and Ethnography and literary data. Most information on this subject may be found in the articles by Doctor Friederici in which he gives the geographical range of the blowgun in North, Central, and South America and also attempts a comparative description of the *sumpitan* of the Malays, Oceanians, and the American Indians.[4]

The Museum's collections, though not well documented, contain several types of blowguns (Fig. 1): the greater number being in the Indonesian section. In the South American section are two *sarbacanas* and as many quivers containing arrows. One specimen consists of a hollow tube 203 cm. long. When carefully examined it appears that the outer tube forms a sheath for another set inside it. Such an outer case is necessary, because the inner tube, usually made of the plant *Arundinaria Sp.* is very brittle. At a distance of 66 cm. from the mouthpiece the valve of a shell is fastened to the barrel, serving as a sight. The arrows are slender sticks with pointed ends, 26 cm. long, reminding one of knitting needles. The points of some are poisoned.

The Indians also use *sarbacanas* made in a slightly different way: the tube is double, but the sheath is in two sections, generally made from a slender tree trunk split lengthwise. After the heart-wood has been removed, both halves are accurately fitted together, forming a hollow tube. There also exists another type of arrow which differs from those in the Museum's collection in that the fork head is slightly notched. Therefore these arrows are more dangerous, as the point breaks off easily when it penetrates the animal's body and remains in the wound.

---

[1] A comparative description of the collections in the Museum of Anthropology and Ethnography at the Academy of Sciences in U. S. S. R.

[2] See *Journal de la Société des Américanistes de Paris*, tome 18, 1926, p. 143.

[3] *Sarbacana* is the name of the American blowgun; *sumpitan*, that of the Malay.

[4] Friederici, G., Die Geographische Verbreitung des Blasrohrs in Amerika, *Petermann's Mitteilungen*, Jahrgang 57, 1911, pp. 71–73; and also, Ein Beitrag zur Kenntnis der Trutswaffen der Indonesier, Südseevölker und Indianer, *Baessler Archiv*, Beiheft 7, 1915, pp. 37–42.

According to Koch-Gruenberg, the arrow poison, *kurare,* is chiefly prepared from the bark of the *Strychnos toxifera,* a plant which is found rather rarely. The place where this plant is found is known to but few persons, chiefly the shamans, who extract the poison and sell it to the neighboring tribes. The poison is very potent; it spreads through the blood, paralyzing the animal. The rapidity of the action of the poison depends upon the size of the animal and upon the quantity of poison. Thus birds die after one to two minutes, while large animals, like the jaguar, the tapir, and others, die after ten to twenty minutes.

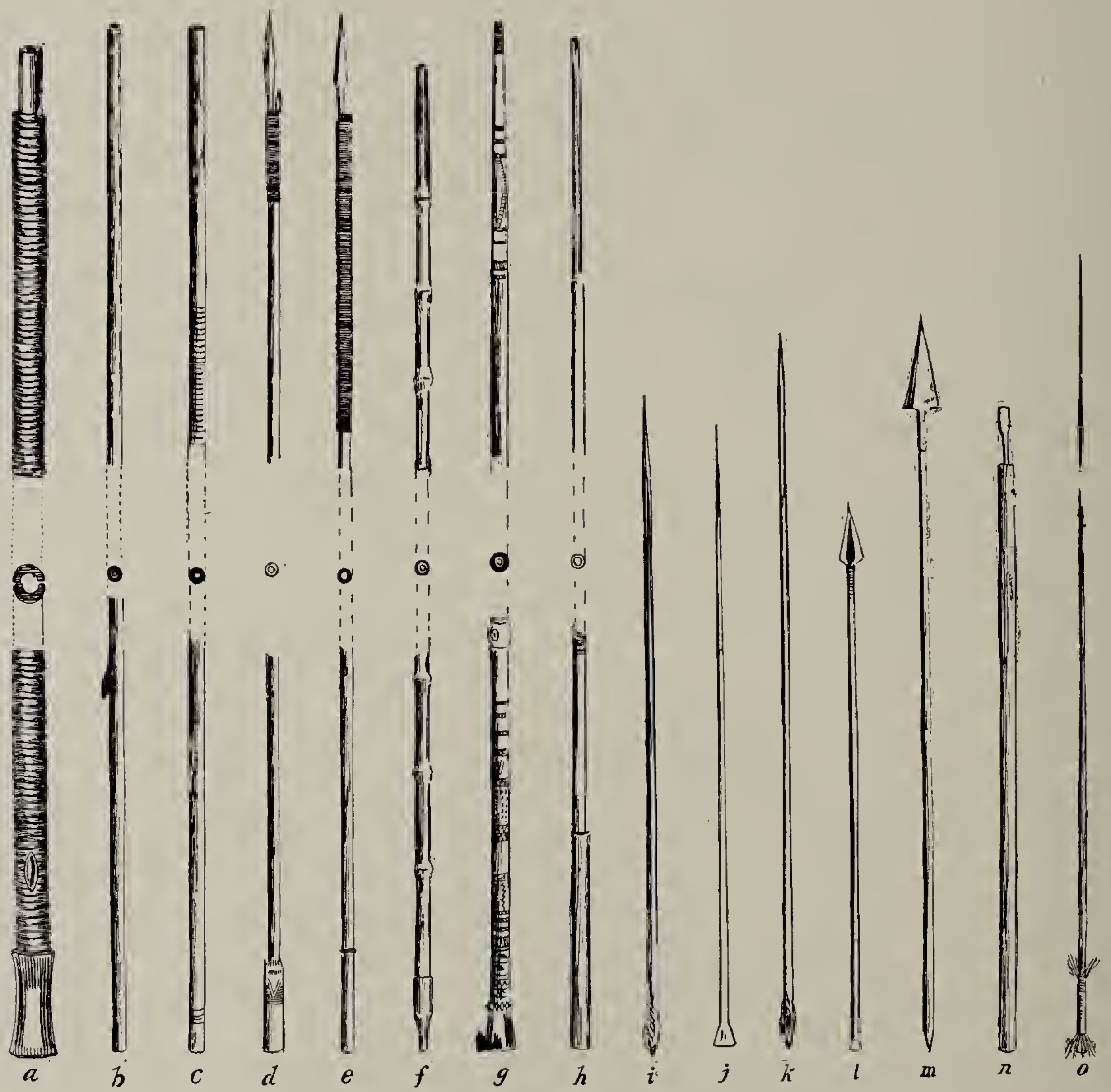


FIG. 1—TYPES OF BLOWGUNS AND ARROWS IN SOUTH AMERICA, INDONESIA, AND OCEANIA: *a,* INDIANS OF SOUTHWESTERN BRAZIL, AFTER KOCH-GRUENBERG; *b,* CARIB, SOUTH AMERICA, 2139/1, ACADEMY OF SCIENCES U. S. S. R.; *c,* INDONESIANS, CELEBES, 2317/51; *d,* INDONESIANS, BORNEO, 2236/237; *e,* INDONESIANS, CELEBES, 2317/52; *f,* INDONESIANS, SUMATRA, 855/178; *g,* INDONESIANS, BORNEO, 665/10; *h,* MELANESIANS, NEW POMERANIA, 2000/148a; *i,* CARIB, SOUTH AMERICA; *j,* BORNEO; *k,* CELEBES; *l-n,* BORNEO; *o,* NEW POMERANIA

The arrows are kept in a special small, narrow basketry quiver plaited of reeds, or a joint of bamboo. In most cases only as many arrows are coated with poison as are required by the hunter. The Indians prefer carrying a supply of arrows and poison and apply the poison to the arrows as required, because it is less efficacious when exposed to dampness and also, a poisoned arrow, accidentally projecting, may wound the hunter.

The *sumpitans* of the Malay Archipelago are represented by a considerable number of specimens in the Indonesian section, some of which will be described. In the collection from the island of Celebes is a *sumpitan* with a sort of iron bayonet attached to it with rattan plaiting. The blowgun is a hollow wooden tube without a specially fixed mouthpiece. The total length of this *sumpitan* is 202 cm.; that of the bayonet, 25 cm. A metal plate is attached to the side of the tube by way of ornament. In the collections from Borneo there is a *sumpitan* of similar outward appearance, but the tube is double as in the South American blowgun.

The arrows are of various types. Besides those that are quite like the Indian ones, there is a series of arrows considerably more perfected. The arrows from various places in the Malay Archipelago may be classified according to outward appearance into two groups: 1, those resembling knitting needles; 2, bamboo arrows with a conical point. Their length varies from 22 to 35 cm. Some of them have a slightly notched head (compare with the arrows of the Indians of South America). Recently arrows with metal points have appeared. Some arrows are provided with a conically shaped protuberance, made of soft heart wood, others are bound with vegetable fibers. This contrivance serves to keep the arrow close to the walls of the gun and thus retards, for the first moments, the air blown from the lungs of the shooter. Special cases made of thin bamboo stems are used to protect the arrows from damage. Just before using them the arrows are treated with poison, prepared from the juice of plants. Frequently the bayonet, which is used as a weapon in hand-to-hand fighting, is also covered with poison. One can judge of the power of the arrow poison from the following experiment. The investigator scraped the poison from two Malayan arrows, prepared seventeen years before. The poison weighed 0.007 and 0.153 gr., and even this small quantity proved effective after the lapse of seventeen years.[5]

The arrows are kept in special leather or bamboo quivers, very similar to those from South America.

The Oceanian blowgun is also made of bamboo. The specimens in the Museum differ from those described above in that they are formed of several joints of bamboo, fastened together with resin and a binding of rattan fibers. The largest of them is 199 cm. long. We learn from recent literature that blowguns and arrows of considerably greater length are used in New Britain.[6]

The arrow is a strip of compact wood, pointed at one end, and feathered at the other. Sometimes a bunch of vegetable fibers is fastened to it instead of the feathers (compare the same in America and Indonesia). The arrows range from 37.5 to 75 cm., according to the length of the gun.

The description demonstrates that the blowgun and arrows of the Malay Archipelago, Oceania, and America are very like one another. The methods of using the blowgun are almost the same. The arrow, wrapped in cotton wool, vegetable fibers, or provided with a special padding, is firmly placed in the gun, forming a kind of cork. Then the gun is clasped in both hands, fingers upward, and held to the mouth. The right hand holds the mouthpiece up to the mouth, while the left hand, in immediate proximity to the right one, clasps and supports the gun. The arrow is driven out by the air pressure from the lungs. Such a position of the hands while shooting is exceedingly strange, as it prevents accurate aiming. The position of the body differs; it may be perpendicular or slightly inclined, or the shooter may sit on the ground.

---

[5] See Hall, Ivan C., A Pharmaco-Bacteriologic Study of two Malayan Blowgun Poisoned Darts, *American Anthropologist*, N. S. vol. 30, no. 1, 1928, pp. 47–60.

[6] Pearson-Chinnery, E. W., The Blow-gun in New Britain, *Man*, vol. 27, no. 11, November, 1927, p. 208.

The distance of the flight of the arrow varies from twenty to fifty meters and depends upon the strength of the air pressure, the length of the blowgun, and its caliber. The similarity of the Indonesian, Oceanian, and American guns is also revealed in the uses of this weapon. The blowgun is now used for hunting small birds and animals; formerly it served as a war weapon, but after contact with Europeans it lost its significance. The companions of Magellan found the weapon of war, *sumpitan,* on many of the islands of the Malay Archipelago. At the time of the conquest of Amboina, the Dutch were forced to have recourse to special shields of tarpaulin to protect themselves from the poisoned arrows with which the natives defended themselves.

The inhabitants of some of the islands of Oceania have already forgotten the use of the *sumpitan* as a war weapon, but traces of it are to be found in their tales and songs. At the time of Cortez the blowgun was used in Mexico as a hunting weapon.

The foregoing description demonstrates that the use of the blowgun has a wide distribution. Thus it exists on almost all the islands of the Malay Archipelago (Sumatra, Java, Sumbawa, Flores, Timor, Borneo, Celebes) and also on some of the islands of the Molucca and Philippine groups.

In Oceania, we find it on New Guinea, on the islands of the Bismarck Archipelago, New Pomerania, New Mecklenburg, the Solomon Islands, and others. In American territory the range of distribution of the *sarbacana* is as follows: In North America, the 44° of latitude can be considered its northern limit, from which it extends to the district of the Gulf of Mexico, the territory in which the blowgun is used, to the 30° of latitude, including part of Florida. From the 30° to the 26° the blowgun is not to be found at all. Southward from latitude 26° it is found in the southern part of Mexico, in Central America, in Colombia, Venezuela, Guiana, Ecuador, and in parts of Peru, Bolivia, and Brazil. Along the Atlantic coast of South America the limit of its distribution can be marked as a narrow strip extending to the 25° of latitude.

In America, as well as in Indonesia and Oceania, the territory in which the *sarbacana-sumpitan* are used lies on either side of the equator, so that the equatorial regions, the Malay Archipelago and the northern part of South America, are the places where it is used most of all (Fig. 2).

It would be of great interest to compare linguistic data. Friederici cites a series of names for the blowgun in Indonesia and Oceania; he also gives corresponding denominations for the American *sarbacana.* However, the names cited by him as American are evidently of Portuguese origin and are connected with

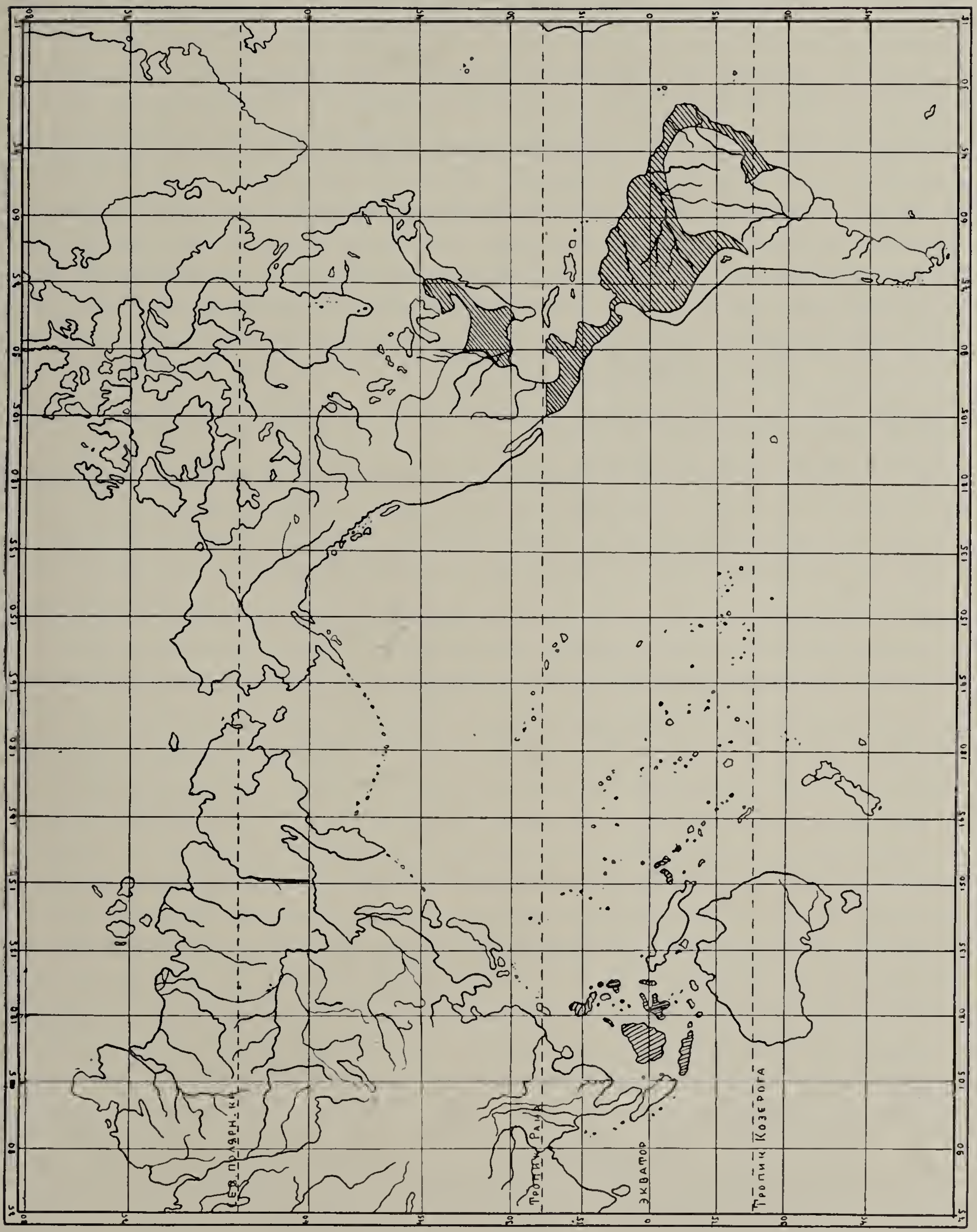

Сев. Полярн. Кр.
Тропик Рака
Экватор
Тропик Козерога

FIG. 2—MAP SHOWING THE DISTRIBUTION OF THE BLOWGUN, BASED CHIEFLY ON DATA FROM G. FRIEDERICI

Indonesia. Some denominations, analogous to those cited by Friederici, are mentioned in the *Glossario Luso-Asiatico* (Lisbon, 1920), and belong to the beginning of the sixteenth century. It is also indicated there that they are taken from the Arabs.

Unfortunately, we have no data as to the origin of the name, *sarbacana,* for the American blowgun, but it is much more recent than the corresponding name for Indonesia. It would be desirable to determine the denomination of the blowgun in the dialects of the various Indian tribes using it. Unfortunately, Friederici has not done it. Of the last two names given in his list, *botoguera* and *pucuna,* only the second may be Indian. Rivet did not mention any linguistic terms at all. His reference to the blowgun is exceedingly short. The comparison between the Indonesian, Oceanian, and American blowguns has, despite its brevity, served him as an argument to confirm his theory of the settling of the Malayo-Polynesians in America. His theory gives no additional data for the study of the use of the blowgun, and we are obliged to confine ourselves to a simple mention of Rivet's theory in our analysis.

MUSEUM OF ANTHROPOLOGY AND ETHNOGRAPHY,
ACADEMY OF SCIENCES, LENINGRAD.

TIPOS DE TIENDA USADOS POR LOS ABORIGENES SUDAMERICANOS

Por Enrique Palavecino

El nomadismo característico de las tribus indias que poblaron la Patagonia, las pampas, el territorio hoy ocupado por la República del Uruguay, el Chaco y la isla de Chiloé, determinó, lógicamente, la adopción del tipo de vivienda transportable conocido en la literatura etnológica con el nombre genérico de "tienda." Las descripciones de los viajeros de todas las épocas, los dibujos publicados y algunas fotografías modernas, nos ilustran suficientemente sobre las variantes de forma y construcción de esta clase de habitaciones, cuyo uso tuvo gran desarrollo entre las tribus patagónico-pampeanas, Charrúas y chaquenses. Mi propósito es el de reunir aquí los datos dispersos, para estudiar las variaciones de la tienda en el extremo austral de Sudamérica, ilustrándolas gráficamente y determinando su distribución geográfica para ocuparme finalmente de lo que con respecto a su origen pueda inferirse de los datos acumulados.

Considerada desde el punto de vista técnico y atendiendo a la clase de material usado como cubierta, la tienda se distribuye en Sud América en tres zonas geográficas que son:—

I. Zona patagónico-pampeana a la que podemos agregar el territorio hoy ocupado por la República del Uruguay. La tienda de esta zona es la que presenta el máximo de variaciones, siendo característica de ella el empleo exclusivo de cueros como cubierta.

II. Zona chaquense en la que los Lenguas, Enimagas, Machicuys, Guaycurú y Mbayas usan o han usado la tienda de esteras.

III. Zona magallánica donde los Chonos usan tiendas cubiertas por cortezas de árboles y cueros de lobo marino.

Area I. Patagonia, Pampas, República del Uruguay, Entre Ríos

Las tribus de esta zona en las cuales se ha constatado el uso de la tienda son los Tehuelches, Araucanos, con sus parcialidades, Peguenches, Ranquilche y otras, Pampas de Methfessel, Barbará y Azara Querandies y, finalmente, los Charrúa.

Tehuelches. La Tienda "toldo" de los tehuelches o afecta tres formas al parecer determinadas por los cambios climatéricos estacionales, el toldo de verano ha sido descrito por varios autores y muy particularmente por Parker King,[1] Viedma,[2] Musters[3] y más modernamente por Spegazzini.[4] Outes en 1905, en su obra sobre la edad de la piedra en Patagonia,[5] hizo una reconstrucción diagramática según los datos de Viedma. Parker King ha ilustrado gráficamente este tipo de toldo en 1839.

---

[1] Fitz Roy, I, 92.

[2] Viedma, 90.

[3] Musters, 190.

[4] Spegazzini, 230.

[5] Outes, 1905, 256.

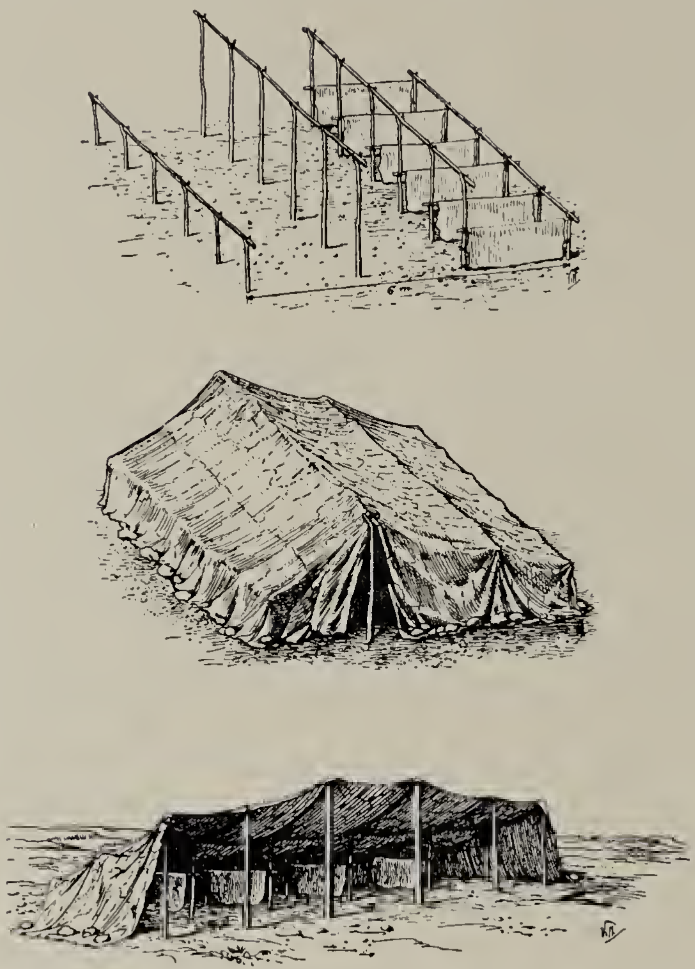


FIG. 1—RECONSTRUCCIÓN DEL TOLDO TEHUELCHE DE INVIERNO SEGÚN DATOS DE MUSTERS Y DE SPEGAZZINI, Y DEBAJO, TOLDO TEHUELCHE SEGUN VIEDMA

Viedma se refiere al toldo de verano en los siguientes términos:—

''Los toldos los ponen clavando en tierra dos palos de dos a tres varas de alto y una y media distantes uno de otro; al lado de cada palo, y a igual distancia clavan otros dos más cortos y al O de los seis clavan otros seis más cortos y a la misma distancia y al O de estos otros seis de poco más de media vara de largo. Sobre estos diez y ocho palos echan el cuero con el pelo para afuera, y lo aseguran a las cabezas de todas los palos, de los cuales cuelgan como cortinas de

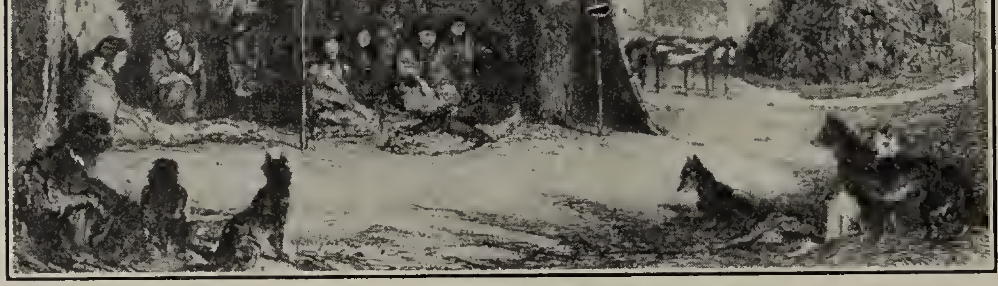


FIG. 2—TOLDO TEHUELCHE, SEGÚN FITZ ROY

> cuero por dentro, que forman las divisiones según las necesitan atándolas de alto abajo a los mismos palos a manera de mamparos firmes: por afuera llega el cuero hasta el suelo el N. O. y S. dejándole siempre la puerta al E. de toda la anchura del toldo como si fuese una cueva ovalada.''

El toldo de verano descrito por Spegazzini se asemeja al figurado y descrito por Parker King y Musters y difiere del de Viedma en la falta de los centrales fronteros más altos que los otros.

En el tipo de invierno se registran dos formas. Un a la que el mismo Viedma se refiere es la misma descrita anteriormente a la cual ``en el rigor de los yelos'' le tapan la puerta ``colgando de ella otro cuero.''

La otra forma de invierno fué así llamada por Spegazzini quien hizo de ella una descripción un tanto confusa pero que en lo esencial coincide con la de Musters. De ambas se deduce que esta especie particular de toldo es la resultante de la adición de una o dos filas de postes bajos frente a la entrada y el cierre de esta prolongando la cubierta por encima de los postes agregados la división interior por medio de mamparas de cuero, según Spegazzini, subsiste lo mismo que en los tipos anteriores.

Pampas. Sabido es que la denominación de indio Pampa es una de las más confusas que se ha usado en la etnología sudamericana y con ella se ha designado según las épocas y los autores a los puelche, los araucanos y finalmente se hizo extensiva a todas las tribus que peregrinaban por las pampas de Buenos Aires, sur de Córdoba, Gobernación de La Pampa, etc. de modo que estimo útil, cada vez que deba referirme a los pampas para obviar los inconvenientes que deriven de la imprecisión del término, dejar intacta la designación del autor.

A principios del siglo XIX Azara describió el toldo de los pampa en los siguientes términos:—

> ``Clavan en tierra tres palos del grueso del puño a cuatro pies de distancia proximamente uno de otro: el de en medio, de una vara de largo; los otros menos, y todos terminados en su extremo por una pequeña horquilla. A dos varas proximamente de estos palos clavan otros tres, en todo semejantes y colocan horizontalmente sobre las horquillas en que todos terminan otros tres palos o cañas, sobre los que extienden pieles de caballo, y he aquí una tienda levantada para una familia.''[6]

El naturalista del Museo de La Plata Sr. Methfessel tomó un bosquejo de dos tipos de toldo pampa uno rectangular cuyo armazón parece estar constituido por cuatro o más horcones de igual altura planta dos en rectángulo con pértigas atravesadas sobre los extremos ahorquillados y cubierto todo por cueros cosidos entre sí quedando la abertura de entrada en uno de los ángulos.[7]

El otro toldo dibujado por Methfessel es de forma cónica y el armazón parece formado por pértigas dispuestas circularmente inclinadas hacia adentro hasta la unión de los extremos y cubierta por un manto de cueros. El Mayor Federico Barbará en su libro sobre la lengua pampa dice:—

> ``otros dan al toldo una forma cónica dejando en la parte superior un agujero que salga el humo.''[8]

---

[6] Azara, II, 44.

[7] Torres, I, 147.

[8] Barbará, 154.

Dentro de lo que yo conozco, es esta la única referencia sobre que he podido hallar sobre la forma de vivienda dibujada por Methfessel.

Araucanos. El uso del toldo entre los araucanos de la vertiente oriental de los Andes está comprobado por referencias de numerosos autores, pero faltan detalles precisos sobre su forma; no sería extraño, como lo hace constar Azara, que hubiesen usado formas análogas a las de los pampas.[9]

Querandies. De los querandies no hay datos precisos; Outes, que ha consultado varios textos, afirma que Oviedo es de los mas explicitos. Dice Oviedo:—

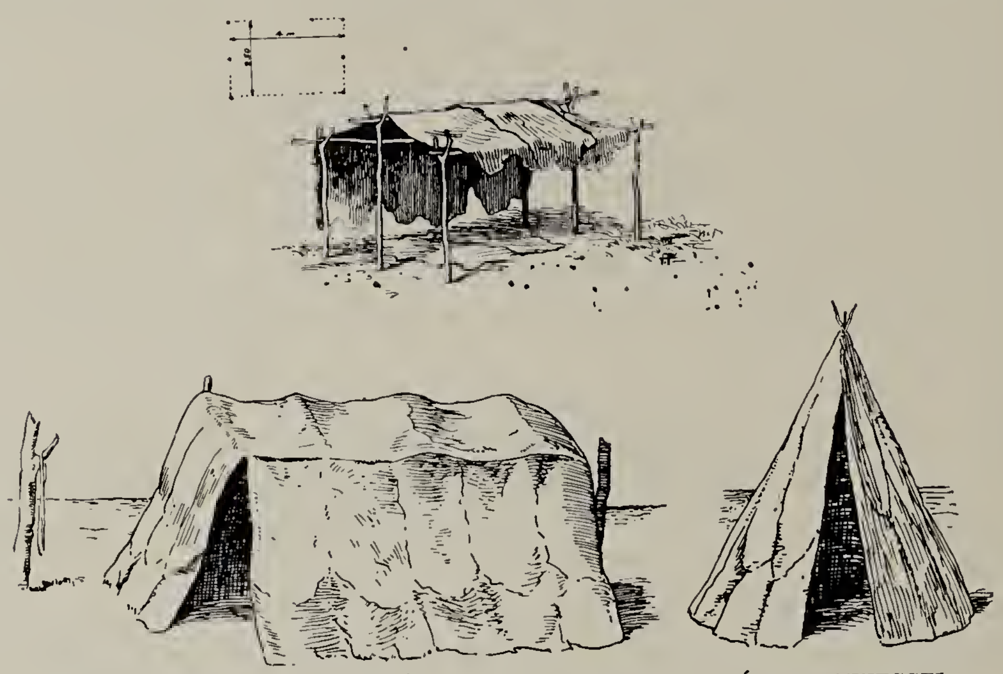


Fig. 3—toldos pampa según Azara, y debajo, según Methfessel

> "Sus casas son un amparo, como de medias choças de cueros de los venados e animales que matan, muy pintados e adobados para la defensa del ayre é del agua; e aquesto son sus moradas."[10]

Charrúa. Azara menciona el proceso de construcción de la vivienda de los Charrúa en la siguiente forma:—

> "Cortan de cualquier árbol tres o cuatro ramas verdas, las arquean para hundir sus dos extremos en tierra. Sobre tres o cuatro arcos, formados por estas ramas y un poco alejados unos de otros, extienden un cuero de vaca, y he aquí una casa suficiente para el marido la mujer y algunos niños."[11]

Area II. Chaco Oriental, Riberas del Alto Paraguay, Matto Grosso

Los datos procedentes de esta zona indican que un número relativamente grande de tribus usaban tiendas portátiles con cubierta de esteras; los escritos que sobre este particular nos dejaron los cronistas de la conquista y de la colonia han sido confirmados por etnólogos y viajeros modernos como Grubb y Krause, pero en pocos casos las descripciones son suficientes como para permitir reconstrucciónes gráficas, como lo he hecho con los toldos de la zona patagónico-pampeana. Con todo, de la lectura de Lozano y de otros autores mas modernos, se deduce que, por lo menos, tres tipos de tienda estaban en uso o lo están aún.

---

[9] Azara, II, 49; Aguirre, IV, 252; Cruz, 37; Mansilla, I, 348.

[10] Oviedo, Libro XXIII, Cap. III, 175; Outes, 1897, 63.

[11] Azara, II, 12.

Karajá y Guaycurú de Castelnau. Estas dos tribus usan un tipo muy simple de reparo, en su forma mas elemental es utilizado por los Karajá como habitación provisional, consiste en una estera tendida horizontalmente sobre cuatro palos plantados en el suelo formando cuadrangulo a los cuales está atado por sus cuatro extremos. En los guaycurú este re paro es usado permanentemente, el armazón parece estar reforzado por pértigas que, tendidas horizontalmente unen los extremos de los parantes verticales formando caballetes; las esteras se tienden por encima de esta estructura.[12]

Mbayá-guaycurú (Sanchez Labrador). Las descripciones de los mbayá-guaycurú de Sanchez Labrador y de los Lenguas de Grubb permiten in ferir la existencia de un tipo de tienda de armazón semejante al de los Pampa descritos por Azara. Segun Sanchez, el armazón principal está constituido por tres caballetes paralelos, de los cuales uno, el del centro, de unos tres varas de alto, sobrepasa a los otros dos; sobre este dispositivo se colocan dos armazones reticulados hechos con cañas muy delgadas o varas largas, formando el soporte de la techumbre determinando la forma de techo a dos vertientes; sobre todo esto, amodo de cubierta se tienden esteras y la habitación está lista.[13]

Grubb describe un tipo semejante, aunque mas primitivo, en uso entre los indios Lenguas.

> "La segunda clase de reparo, dice, consiste en una estera de juncos atada a un largo armazón de palos, las esteras están extendidas a ambos lados y se juntan en la cumbrera. En tiempo bueno es conservada la forma aguda, pero cuando el dia es muy cálido levantan un costado al nivel de la cumbrera."[14]

Karajá. Hay un tercer tipo que se asemja vagamente al toldo de los Tehuelches pero está cubierto con esteras y, lo mismo que el tipo primero, solo es usado por los Karajá provisionalmente.[15]

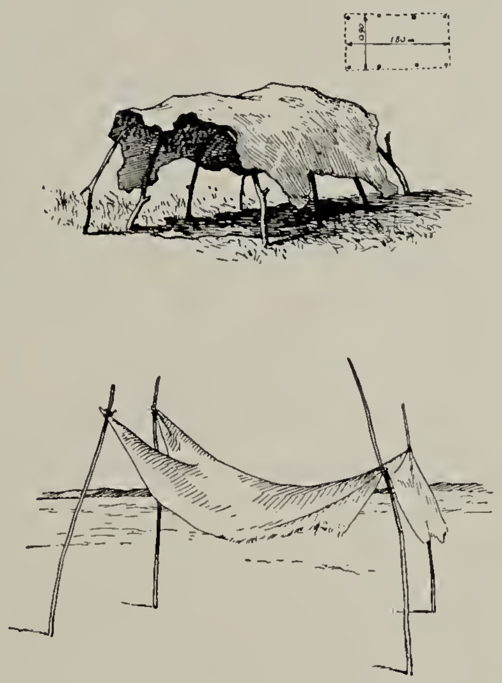


FIG. 4—TOLDO CHARRUA SEGÚN AZARA, Y DEBAJO, TIENDA PROVISIONÁL DE ESTERAS DE LOS KARAJÁ, SEGÚN FOTOGRAFIA DE KRAUSE

Se ha constatado el uso de la tienda de esteras entre los Payaguás, Machicuy,[16] y Chamacocos[17] pero sin precisar forma.

AREA III. ZONA SUD-PACÍFICA, ARCHIPIÉLAGO DE LOS CHONOS

Gonzales de Agueros se refiere a la tienda de los Chonos de Chiloe en estos términos:—

---

[12] Krause, 203, Taf. 41; Castelnau, Pl. XXI.

[13] Sanchez Labrador, I, 268–270.

[14] Grubb, 78.

[15] Krause, 203, Taf. 41.

[16] Azara, II, 129 y 156.

[17] Baldus, 37; Boggiani, 50.

"Las chozas de estos indios ni aun el nombre de tal merecen, pues solo se reducen a unos palos clavados en tierra cubiertos con cortezas de árboles i algunas pielas de losbos marinos, i unicamente tienen para ellos la conveniencia de que facilmente las transladan a otros sitios, i como no hacen mansión determinada sino que continuamente mudan de isla en isla en solicitud de su manutención, cargan en sus pequeñas piraguas, las cortezas pieles y palos y donde llegan levantan luego su choza."[18]

Del techo publica un relato de los Padres Melchor Venegas y Juan Bautista Ferrusino en el que se dice que las casas de los Chonos son de forma Cónica y estan fabricadas con cortezas flexibles.[19] Cooper dice que la forma mas común de reparo es la choza en forma de colmena, de planta circular o eliptica y con un armazón de palos encorvados cubiertos con pastos, helechos, cortezas o pieles; segun citaciones del mismo Cooper, Byron, Lozano y Beranger indican la costumbre que los Chonos tenian de transportar en sus canoas los postes o vigas del armazón o las cortezas del techado.[20]

La clasificación de los tipos de tienda según la naturaleza del material empleado en la confección de la cubierta, es la mas apta para la presentación ordenada de todas las variantes, porque responde con bastante aproximación a las divisiones geoetnicas mas corrientes para el extremo austral de sudamerica pero, para otros fines, cabe, a mimodo de ver una segunda clasificación mas propia para servir de base a consideraciones sobre el origen de las formas segun la cual el principal criterio discriminativo lo da la forma de la planta, la cual, como podemos apreciarlo en los trabajos de Nordenskjold, Schmidt, y Waterman es fundamental de acuerdo con esto tendriamos para la tienda el siguiente modo de agrupación tipológica:—

I. Formas de Planta Circular
    1. Forma cónica, cubierta de pieles, con o sin abertura para la salida del humo-Pampas de Barbará y Methfessel.
    2. Forma cónica o en colmena, cubierta de pieles, cortezas de áboles, pastos, ect. planta circular u oval-Chono, vide Gonzales de Agueros, Cooper, ect.

II. Formas de Planta Rectangular (agrupadas según forma del armazón)
    1. Armazón de varas encorvadas, Charrua.
    2. Armazón de varas plantadas en el suelo con pértigas horizontales formando caballetes, Pampas, Tehuelche, Guaycuru.
    3. Armazón de simples postes verticales, Karajá, Tehuelche, ect.

El tipo cónico de los Pampas se asemeja extraordinariamente a la tienda de pieles de forma análoga de los indios de las praderas de la América del Norte y a la tienda de los esquimo figuradas por Saffert[21] pero, a mi criterio, esta sugestiva semejanza, debe considerarse como producto de una doble invención porque en el extremo austral del continente sudamericano tenemos una forma, la mampara semicircular de los Ona, que se aproxima tanto a la tienda cónica de pieles de los Pampas que bien pudiera interpretarse somo su germen o forma originaria.

La tienda de los Chonos es muy poco especializada, tiene caracteristicas que le aproximan a la choza fija, le falta para ser una verdadera tienda esa adaptación

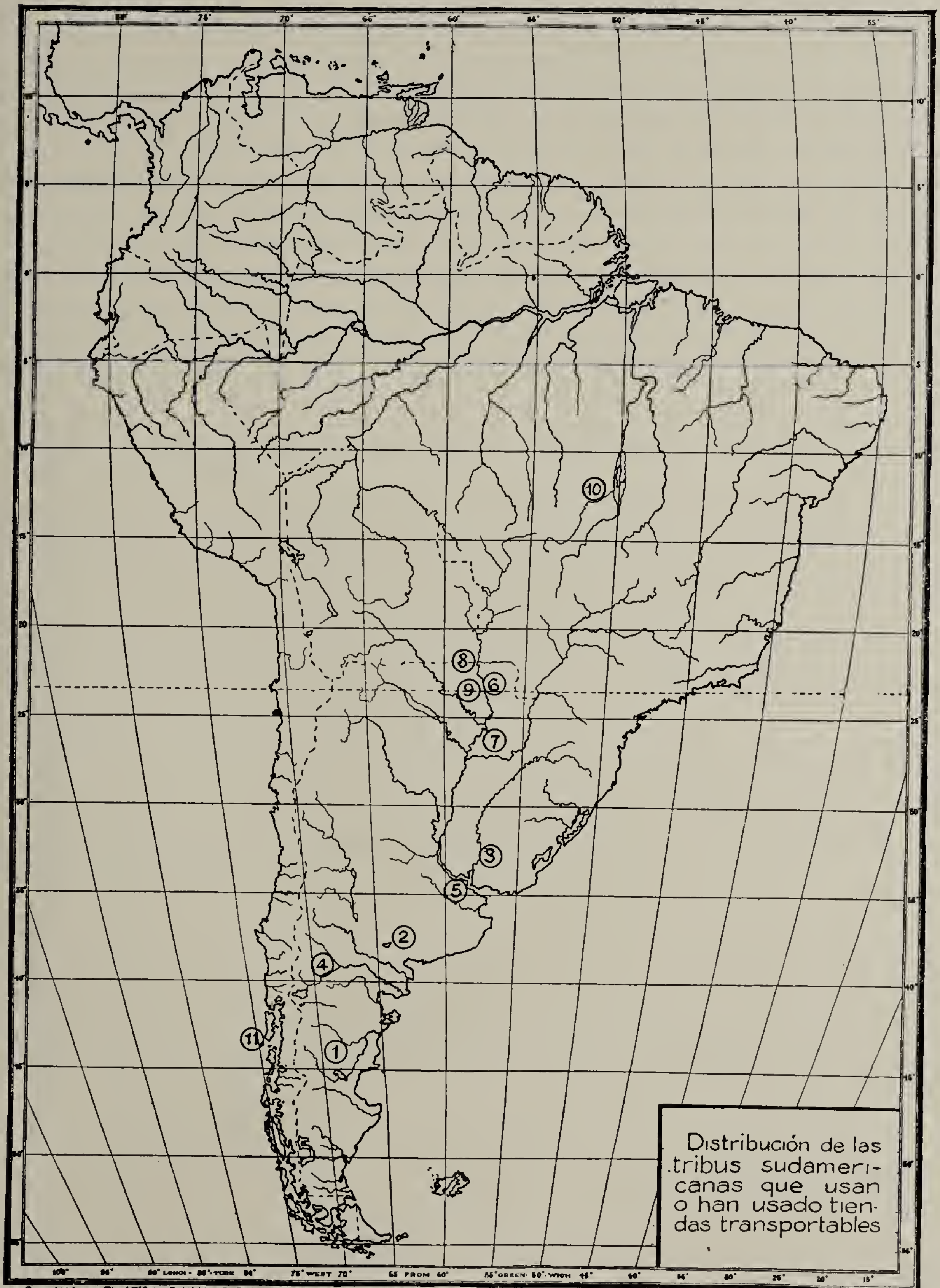
---

[18] Gonzales de Agueros, 163.

[19] Techo, III, 39.

[20] Cooper, 192

[21] Saffert, 11.


Distribución de las tribus sudamericanas que usan o han usado tiendas transportables
1
2
3
4
5
6
7
8
9
10
11
100° 95° 90° Long. 85° tude 80° 75° West 70° 65 from 60° 55° Green- 50° wich 45° 40° 35° 30° 25° 20° 15°

Copyright [illegible], The McKinley Publishing Co. Philadelphia Pa.

1, Tehuelches; 2, pampas; 3, charruas; 4, araucanos; 5, querandies; 6, guaycuru; 7, payaguás; 8, machicuy; 9, lenguas; 10, karajás; 11, chonos

total a la fácil movilidad que caracteriza al toldo por esta razón creo que la tienda de los Chonos no es mas que una choza en forma de colmena hecha parcialmente transportable.

El toldo de planta rectangular de los Charruas, por su armazón de varas encorvadas, se separa de las otras formas rectangulares de tienda y se aproxima a la de los Chonos, pareceria que se tratase, sinó de una derivación directa, por lo menos de una influencia del area tan próxima del uso intensivo de la choza en forma de colmena.

Según Cooper, no es inverosímil que la mampara semicircular de los Ona este geneticamente relacionada con el toldo Tehuelche (Cooper, 192); ya he dicho antes que esa rudimentaria forma de reparo puede haber dado origen a la tienda cónica, pero su relación genética con el toldo rectangular, sobre todo con las formas a caballetes, me parece muy cuestionable mas bien el toldo Tehuelche, junto con los tipos Pampa, Araucano, y Mbayáguaycurú parecen relacionados con las estructuras a caballetes de las cabañas fijas rectangulares de la parte central y norte de sudamérica sin que por ahora pueda aducirse en pro de esta otros argumentos que la analogia de la forma y la continuidad de la difusíoń. En cuanto a la forma con armazón de simples postes verticales creo que es exclusiva de la tienda y tecnicamente solo posible en ella razón de la forma de la cubierta; tanto entre los Karajá como entre los tehuelches la forma de simples parantes aparece asociada con formas de tienda o de choza fija a caballetes; a pesar de esto, no es imposible que, por su mayor simplicidad represente este tipo de armazón una forma elemental a la cual posteriormente se habria agregado el caballete.

Schmidt y Waterman han tratado, a grandes rasgos, el problema de la habitación de los nativos americanos; creo que a los meritorios trabajos de los autores mencionados, deben seguir monografias especiales, que, finalmente, al ser reunidas, pueden damos una mejor y mas exacta visión de la tipologie, génesis y distribucion de las viviendas de los indios de América.

BIBLIOGRAFIA

AGUIRRE, JUAN F. Diario, *Anales de la Biblioteca,* tomo IV, pp. 1–127 y VII, Buenos Aires, 1905, y 1911.

AZARA, FELIX DE. *Voyages dans l'Amérique Méridionale,* 4 vols, Paris, 1809.

BALDUS, H. Os indios chamaeocos, *Revista do Museu Paulista,* tomo XV, segunda parte, p. 3, Sao Paulo, 1927.

BARBARÁ, FEDERICO. *Manual o vocabulario de la lengua Pampa y del estilo familiar . . .* ect., Buenos Aires, 1879.

BERANGER, CARLOS DE. *Relacion jeográfica de la provincia de Chiloé, San Carlos,* 1773, Ed. con introducción y notas por Nicholas Anrique R., Santiago de Chile, 1893; cit. Cooper. *Analytical and Critical Bibliography,* ect.

BOGGIANI, G. *I ciamacoco.* Roma, 1894.

BYRON, JOHN. *The Narrative of the Honourable John Byron (Commodore in a late expedition round the world) containing an Account of the Great Distresses suffered by Himself and his Companions on the Coast of Patagonia.* Dublin, 1822, y trad. española Santiago de Chile, 1901.

CASTELNAU, FRANCIS DE. *Vues et scenes recueillies pendant l'expedition dans les parties centrales de l'Amérique du Sud, de Rio de Janeiro à Lima et de Lima au Pará,* Paris, 1853.

COOPER, JOHN M. Analytical and Critical Bibliography of Tierra del Fuego and Adjacent Territory, Bulletin 53, *Bureau of American Ethnology,* Washington, 1917.

CRUZ, LUIS DE LA. Descripción de la naturaleza de los terrenos que se comprenden en los antes poseidos por los peguenches y demás especios hasta el rio Chadileubú-en: Angelis, Pedro de, *Colección de Documentos relativos a la historia antigua y moderna de las provincias del Rio de La Plata,* tomo I, Buenos Aires, 1835.

FITZ ROY, ROBERT. *Narrative of the Surveying Voyages of his Majesty's Ships Adventure and Beagle, I, Proceedings of the First expedition, 1826–1830,* under the command of Captain Parker King, London, 1839.

GONZALES DE AGUEROS. *Descripción historical de la provincia y archipiélago de Chiloé en el Reyno de Chile y Obispado de la Concepción,* Madrid, 1791, cit. por Medina, José Toribio, en *Los Aborígenes de Chile,* p. 163, Santiago de Chile, 1882.

GRUBB, W. BARBROOKE. *An Unknown People in an Unknown Land,* London, 1911.

KRAUSE, FRITZ. *In den Wildnissen Brasiliens,* Leipzig, 1911.

LOZANO, P. PEDRO. *Descripción chorográfica del terreno, rios, árboles y animales de las dilatadisimas provincias del Gran Chaco Gualamba y de los ritos y costumbres de las innumerables naciones bárbaras e infieles que los habitan,* Cordova, 1733, en Outes, *Los queraudies,* Buenos Aires, 1897.

Historia de la conquista dela Paraguay, Rio de La Plata y Tucuman, notas i suplementos por Lamas, Andrés, 5 vols. Buenos Aires, 1873.

MANSILLA, LUCIO V. *Una excursión a los indios Ranqueles,* 2 vol. Buenos Aires, 1907.

MUSTERS, C. CH. Vida entre los Patagones, *Biblioteca Centenaria,* tomo I, Buenos Aires, 1911.

NORDENSKIOLD, ERLAND. The Ethnography of South America seen from the Mojos in Bolivia, *Comparative Ethnographical Studies,* No. 3, Göteborg, 1924.

NUÑEZ CABEZA DE VACA, ALVAR. *Naufragios y Comcntarios de,* Madrid, ed. Calpe.

OUTES, FELIX F. *Los querandies,* Buenos Aires, 1897.

La edad de la piedra en Patagonia, *Anales del Museo Nacional de Buenos Aires,* tomo XIII, ser. 3, V, pp. 203–575, Buenos Aires, 1905.

OVIEDO. *Historia general y natural de las Indias,* Madrid, 1852.

SAFFERT, ERNST. Haus und Dorf bei den Einbeborenen Nordamerikas, *Archiv für Anthropologie,* Band XXXV, N. F. VII, S. 119–213, Braunschweig, 1909.

SANCHEZ LABRADOR, P. JOSÉ. *El Paraguay Católico, 1770,* ed. de la Universidad Nacional de La Plata, 3 vols., Buenos Aires, 1910.

SCHMIDT, P. W. Kulturkreise und Kulturschichten en Südamerika, *Zcitchrift für Ethnologie,* Band XLV, S. 1014, Berlin, 1913.

SPEGAZZINI, CARLOS, Costumbres de los Patagones, *Anales de la Sociedad Científica Argentina,* tomo XVII, pp. 222–240, Buenos Aires, 1884.

TECHO, NICOLÁS DEL. *Historia de la provincia del Paraguay de la Compañia de Jesus,* version castellana de Manuel Serrano y Sanz, 5 vols., Madrid, 1897.

TORRES, LUIS MARIA, Y OTROS. *Manual de historia de la Civilización Argentina,* Buenos Aires, 1917.

VIEDMA, A. DE. *Descripción de la Costa Meridional del Sur vulgarmente llamada Patagónica,* en Angelis, Pedro de, *Coleccion de obras y documentos ect. en* Cruz, IV, 80, Buenos Aires, 1837.

WATERMAN, T. T. The Architecture of the American Indians, *American Anthropologist,* N. S. XXIX, pp. 210–230, Menasha, 1927.

BUENOS AIRES,
ARGENTINA.

THE SOCIAL ORGANIZATION OF THE BUSH-NEGROES OF SURINAME

By Melville J. Herskovits

THE Bush-Negroes of Dutch Guiana offer a cultural situation which is peculiarly alluring to the ethnologist. In the study of the most primitive cultures, an understanding of the processes involved is materially obscured by our lack of knowledge of the historical background of the people being studied, thus making essential historical reconstructions which are irritatingly hypothetical. In the case of the Bush-Negroes, however, the entire history of the people, from their arrival in their present habitat, is known. The contacts which these people have had, and, for the most part, the extent to which these contacts have been casual or intensive, are available to the student who will consult the literature.[1] The descendants of slaves who, making good their escape from the plantations into the impenetrable forests of the colony, established a civilization of their own which the government was unable to destroy, their antecedents from the time of the late seventeenth century onward are well known. Their civilization is a fascinating combination of the aboriginal West African cultures, aspects of European civilization which they assumed during the period of their contact with the whites, and portions of the civilization of the Carib and Arawak Indians of the Guianas whom they drove out of the region they settled.

These people have not been neglected by the Dutch scholars and officials who have had contact with them and there is today a considerable body of literature which deals with them. Indeed, it is a privilege to detail in this place a first statement from the results of a field trip to the Bush-Negroes, as it is, in a sense, a mere continuation of the work of Jonkheer L. C. van Panhuys, who, for many years, has presented valuable contributions based on the life of the Bush-Negroes to the sessions of this Congress. Other work, some of which touches on the particular aspect of Bush-Negro culture discussed in this paper, has been done by leaders of the exploring expeditions which have passed through the country of these people, such as Herderschee[2], de Goeje[3] and Eilerts de Haan,[4] among others. Still further data are available in the contributions of Bonaparte,[5] Joest,[6] and Lindblom,[7] the last of which is especially stimulating because of the excellent manner in which definite African cultural affiliations are pointed out. In none of these studies, however, do we obtain any great detail as to the social organization of the Bush-Negro tribes. Panhuys gives a general impression of this aspect of their culture in the general article referred to and de Goeje and Eilerts de Haan both include some words which denote relationship in appendices to their reports. But no systematic study has been undertaken.

---

[1] The most concise summary of the scattered historical references is to be found in the first portion of the article *Boschnegers* by L. C. van Panhuys, in the *Encyclopaedie van Nederlandsch West-Indië,* especially pp. 152–155, the section entitled *Oudste Berichten.* The bibliography appended to this article, one that is very extensive, is extremely valuable.

[2] Herderschee, A. Franssen, Verslag der Tapanahoni-Expeditie, *Tijdschrift van het Kon. Ned. Aardrijkskundig Genootschap,* Jaarg. 1905, pp. 1–196.

[3] de Goeje, C. H., Verslag der Toemoekhoemak-Expeditie, *ibid.,* 2e ser., dl. XXV, 1908, Afl. 5, pp. 1–226. Text-references below to this work will be made as "de G."

[4] de Haan, J. G. W. J. Eilerts, Verslag van de Expeditie Naar de Suriname Rivier, *ibid.*, 2e ser., dl. XXVII, 1910, Afl. 3–4, pp. 1–127. Further text references to this work will be made as "de H."

The data presented in this paper are the result of a field-trip to the upper and middle Suriname River taken during the summer of 1928.[8] The choice of locale was dictated by two considerations; first, that this region has never been subject to intensive study, and second, its accessibility from Paramaribo. The data given in practically all of the publications mentioned above (with the exception of Eilerts de Haan's report), and in most other works dealing with the Bush-Negroes, has to do with the Aukaner tribe. Little mention has been made of the Saramaccaners, the tribe which I visited, and it therefore seemed to offer an opportunity not only to gather new data, but also to test the extent to which the culture of the Bush-Negroes in general is a unit from one tribe to another. The data on which this discussion is based were obtained in large part from Mr. R. M. Schmidt, a Saramaccaner Bush-Negro who, having been educated in Paramaribo, is at present head-master in the Moravian Mission school at Gansee, on the Middle Suriname River. It is a privilege to acknowledge my indebtedness to him for the intelligent assistance he gave me. This information was further gone over by means of conversation with and questioning of various individuals in the Bush-Negro villages I visited farther in the interior and therefore may be regarded as having been thoroughly checked. On the other hand, I was fortunate in obtaining the assistance of Mr. A. W. van Lier in Paramaribo. He has had long experience with the Aukaner tribe and has been interested for many years in their ethnology. It is from him, in the main, that my information regarding the Aukaners was obtained, although I was fortunate in having the opportunity of an afternoon's work with Somba, the head of the Aukaner village of Gododrai on the Mapana Creek off the upper Commewyne River. It is from these sources and from my personal observations among the Saramaccaners that the data given below were obtained.

Consideration of the Bush-Negro social organization falls quite naturally into several parts, the first of which to be discussed must be the most simple aspect of their society, the household, or *wo· sù*.[9] This consists of the mother and father, and the children of this pair. Although polygyny is common among the Bush-Negroes, each wife, as is characteristic of the African practice, has her own house, and therefore each wife and her children would, with the father, constitute a separate household. The identity of the various households centering about a common father is not overlooked, however, as will be apparent from the relationship terms used by the members of this group.[10]

---

[5] Bonaparte, Prince Roland, *Les Habitants de Suriname*, Paris, 1884.

[6] Joest, W., Ethnographisches u. Verwändtes aus Guyana, Supplement to vol. V, *Int. Arch. für Ethnographie*, 1895 (pp. 39–68 on the Bush-Negroes).

[7] Lindblom, Gerhard, *Afrikanische Relikte und Indianische Entlehnungen in der Kultur der Buschneger Surinams*, Göteborg, 1924.

[8] This trip was made under the auspices of the Columbia University Research Council in the Social Sciences, by means of a grant from Doctor Elsie Clews Parsons, which made it possible, and for which I wish to express my gratitude.

[9] Schuchardt, Hugo, Die Sprach der Saramakkaneger in Suriname, *Verh. der Kon. Akad. van Wetenschappen te Amsterdam*, Afd. Letterkunde (n.r.), Deel xiv, no. 6, 1914, gives this

father: *Tâ·Tá* (Sch., p. 107, *tatta*; de H., 107, *taata*, de G., 205, *papa, tata.*)

mother: *mâa má·* (Sch., 86, *mamma*; de H., 107, *mama*, de G., 105, *mama.*)

son (spoken to): *mi î·* (Sch., 89, *mie, mii*, kleines Kind), or by name.
son (spoken of): *wo· mì* or *ki ô*.

daughter: no term recorded. Informant stated that girl-child is addressed or spoken of by name.

husband: *ma· nu* (Sch., 87, *mannu*; de H., 108, *manoe*, de G., 205, *kili.*)

wife: *mu yɛ̂* (Sch., 90, *mujere, mojere* (*mujee*); de H., 108, *moejeer*; de G., *oli.*)

husband's plural wife (used by woman): *Ką 'bó· sa*, she who makes trouble for me (Sch., 67, *gongossa* = heucheln.)[11]

father's other wife: *ḿ · ma* = term used for mother's sister, q. v.

brother: *'ba â·* (Sch., 56, *brara*; de G., 205, *brara*).

older brother: *gą̆ 'bâ·* (de H., 108, *gran brara*)

younger brother: *pi kí· 'bâ* (de H., 108, *pikien brara*)

sister: *sí· sà* (Sch., 102, *sissa*; de G., 205, *sisa*)

older sister (in address): *gą i· sà*
older sister (spoken of): *gąą ì· sa* (de H., 108, *gran sisa*)

younger sister: *pi kí· sí· sa* (de H., 108, *pikien sisa*)

Note: the above collateral terms are used by members of different households of the same generation who have the same father.

The above terms are those used by the Saramaccaners, although the references to de Goeje give Aukaner terms. There are certain differences in the relationship terminology which characterize the usage of the latter tribe to be noted and these are borne out, in part, by my information obtained from Somba and his companions. These Aukaner Bush-Negroes gave me the following, which, though fragmentary, are worth mention here:—

my father: *mi da*
my mother: *mi ma*
my brother: *mi bá· la*
my older brother: *mi gran bá· la*
my younger brother: *mi pikin bá· la*
my sister: *mi sí· sa*

---

word as "hosso," p. 71. Further textual reference to this work will be made as "Sch." The word in de H., p. 109, is given as "Owosso, osso," by van Lier for the Aukaners as ɔ so.

[10] Phonetic values of vowels in the native words used in this paper are the continental ones; capitalization of consonants indicates medial values. Diacritical marks indicate tone, which is very pronounced in the spoken language of the Saramaccaners: *á* is high, *a*, middle tone, and *à* low, while combinations of these indicate inflected tones. Accent is indicated by a point placed after the accented vowel, *a·*. A long vowel is indicated by doubling it. The value *'b* is pronounced as almost *mb*. A cedilla indicates nasalization. ɛ = e in "met," ɩ = i in "pit," *ō* represents a closed *o*, ɔ = aw in "awe."

[11] It is significant in this connection to quote the following from R. S. Rattray, *Ashanti*, p. 34: ". . . 'kora' is the word used also for a co-wife, and means literally 'the jealous one'." To this the footnote is appended: "Mrs. Seligman tells me that among some of the Nilotic tribes the word for co-wife is also derived from a root meaning jealous."

my older sister: *mi gran sí· sa*
my younger sister: *mi pikin sí· sa*
my son; my daughter: *mi pikin,* if used by the father addressing his son, or by a mother addressing her daughter. The father in speaking to his daughter calls her *sí· sa,* while the mother in address, call her son *bá· la.* I do not know the significance of this usage.

I was also able to obtain from these same informants the terms for some of the above relatives used in the Kromanti, or ceremonial language. All these terms are used, it was explained to me, by the *wị ti,* or spirit, who calls herself *Ạ dó*:—

father: *ablowá ta ta*
mother: *ablowá ma ma*
son: *bó· i* (from the English, boy?); (Sch., for the Saramaccaners, *boi,* Knabe, Junge, p. 55)
daughter: *á mę le kú*
sister: *asi si sa*
brother: *asi ba· á la*

It was explained to me that *asi* means horse in taki-taki—the native language of the coastal region—and that this represented the bearer of the sister's spirit. There is some reason to believe that this explanation partakes of the nature of folk-etymology, and that the word is of actual African origin.

Residence among both the Saramaccaners and the Aukaners may be either patrilocal or matrilocal. Among the former, if the wife lives in the same village as her husband, but in another part of it, *i.e.,* that belonging to another clan, the father is then said to live in the *mu yɛ́· pi·ssì* = piece of ground. If she comes from another village and he goes to her village to take up his residence, he then lives in his *mu yɛ́ kɔ·dɛ̀* (*kɔ·dɛ̀* = village and its land, literally "country"). In cases such as these, the man is only regarded as more or less a visitor, or, at best, he lives among both tribes at the pleasure of his wife's family and the land on which he builds his house does not belong to him. On the other hand, if the wife comes to live with him, the land on which he makes his residence is that of his own family and, since descent is matrilineal, as will be explained below, his children belong essentially to the village where his wife's family live, and must look to that spot for any hereditary property. Indeed, the male children will repair to that village to make their residence when they have passed childhood.

Next in our consideration must come what Meek[12] has happily termed the "extended family," the term for which, among the Saramaccaner tribe is *'bɛ̂,* (= "belly," that is, the common womb from which all the members are descended) or *beri* among the Aukaners. The persons who go to make up this group and the terms of relationship which are used to denote them, are as follows:—

mother, brother, sister: as given above
mother's mother: *a vó·* (Sch., 50, *awwo;* in Aukaner, according to my informants, *gran ma.*)
mother's mother's sister and brother: *a vó·*

---

[12] Meek, R., The Katab and their Neighbors, *Jour. African Society,* vol. xxvii, pp. 104–127, pp. 269 ff.

daughter's child: *a vǒ́*
mother's mother's mother: *tǒ́· gbo*
mother's mother's mother's mother: *a fɔ kú·*
mother's mother's mother's mother's mother: *nέ· nε*

There are no terms for collateral relatives as many generations removed as the preceding three, nor was I able to obtain any terms for the corresponding relatives in the descending line, nor any expression as to whether these terms are used reciprocally, or not.

mother's sister: *ḿ· ma* (in Aukaner speech, *ti· a*)
mother's brother: *tí· o* (in Aukaner speech, *ti· u*)
sister's son: *yu· mà*
mother's brother: *ti· o* (in Aukaner speech, *ti· u*)

mother's sister's son mother's mother's sister's daughter's son and all males of the speaker's generation descended from relatives in the male line	*'ba â·*
mother's sister's daughter and all females of speaker's generation related in the female line	*sí· sa*
mother's mother's sister's son and all males of the preceding generation related to the speaker in the female line	*tí· o*
mother's mother's sister's daughter and all females of the preceding generation related to the speaker in the female line	*ḿ· ma*

The *'bε̂* as is to be seen from the relationship terms of its members, is an organization based on relationship through the maternal line. No one descended on the father's side is a member—indeed, the matrilineal aspects of society function at all times in the relationship between father and children and in the attitudes which arise from this situation. One's children, if one be a man, are distinctly under the control of the mother's brothers; thus, one would not dream of going on a trip up the river with one's son without the permission of the maternal uncle of the boy, to whom strict accounting for anything that happened to the youth would have to be made in the event of any misadventure. This strong feeling for the validity in relationship only through the female is illustrated by the manner in which it has affected customary linguistic usage among the Saramaccaners. On one occasion I asked a paddler, who was accompanied by his little boy, whether this was his child. He replied strongly in the negative; "*Mi mek 'i*"—"I made him." But the child was his wife's.

The social organization, as reflected thus far in the relationship terminology, is seen to be quite that of the orthodox matrilineal type. It is relatively simple; when considered at first glance, is classificatory; and is based on generation, with little use of reciprocal terms. Yet, the simplicity is not quite as great as one might imagine. For, when we probe somewhat deeper, we find that the psychological reaction to the matrilineal system is much more important than the actual reflection of it in the relationship terminology. The custom, which is typical of west Africa, of emphasizing descent on the one side of the family, and at the same time recognizing the biological relationship through the socially non-related parent, is strong among the Bush-Negroes, both Saramaccaners and Aukaners. The terms of address and of reference which have been given are, in actual usage, found to apply to the same relatives on the father's side as on the mother's. Thus, although I call my father's brother *Tâ·Tá,* which means father, and his sister in address *m·ma,* or when spoken to *mâgmá*; the terms for mother and mother's sister, this is explained as only showing special respect to father's brother and sister, to whom I am not socially related. On the other hand, my father's brother's son and daughter are called *'ba â·* and *sí·sa* by me, just as are my mother's sister's children, even though the latter belong to my own *'bɛ̂*, while my father's brother's children do not even belong to my father's *'bɛ̂*. I call my brother's male child *yu· mà* and his female child *wɛ́·dye,* just as I call those maternal nephews who are socially recognized as being related to me. And I call my father's father and mother by the same terms as I call my mother's parents.

Yet, this does not mean that the two sides of the family are not held clearly distinct in the minds of the people, nor that the social implications of this distinction are not rigidly adhered to. As one informant told me, although the same terms are used to describe father's relatives, "they are not of my family." This comes out most clearly, as would be expected, in the consideration of incest prohibitions. Thus, one may marry a *sí· sa,* if a man, or *'ba â·*, if a woman, provided these are father's sister's, or father's brother's children. But such a match would never be sanctioned on the maternal side of the family. Although it was explained several times that marriages of this kind do not occur frequently, it was also made very plain that this is simply chance—that while there is no compulsion, as in so many societies, to marry the cross-cousin to whom one is not related socially, a marriage of this kind is not regarded with disfavor. On the other hand, a marriage consummated within the *'bɛ̂*, even though the persons concerned be further removed than is the case with first-cousins, constitutes a *pika·du*—a sin—of a very grave nature. Its character as a transgression is somewhat obscure, but it is very plain that there is a close interrelation between the social organization of the people and the religious sanctions underlying their beliefs. In the event of a *pika·du* of this sort having been committed, nothing would be done against the individuals concerned. The matter is in the hands of the gods and it is believed that the people who have committed the sin are doomed to die. And in this event, the funeral will not be an honorable one—a severe punishment in a society where the rites attendant on death are as intricate as among the Bush-Negroes—for while there will be burial, there will be no ceremonial attendant on the interment. Among the Aukaners, the feeling is even stronger in the matter, for the commission of a *pika·du* results, according to Mr. van Lier, in "an eternal feud" being waged against the entire family or even against the entire clan of the persons involved, by the offended spirit. A Saramaccaner child born of such a match would be a *go mî·,* a "child of the ground" and he would be exempt from punishment, the feeling, logically enough, being that he was not responsible for the matter. Indeed, the child is regarded as a full member of the *'bɛ̂,* since all the other members are only half-descended from the *'bɛ̂* to which they belong. I was informed that this is the actual, although not literal meaning of the term *go mî·*. It is interesting, in passing, to note the faith in the punishment of a transgression of incest lines holds even in the case of the most terrible sin of this kind the Saramaccaner is able to envisage, that of brother-sister incest. Although this is the worst *pika·du* possible, any steps in the matter are in the hands of the spirits, although the persons concerned are, of course, looked down upon by their fellows.

Much more on this point remains to be learned, although much more that was learned might be related. But enough has been told to make the point clear; that although the paternal as well as the maternal descent is well understood, socially only the maternal line is included in the family and all incest lines are drawn at the point of differentiating between the two groups, father's and mother's. What, then, is the rôle of the father as far as his children are concerned? Is he only a companion, as, for example, is true in many matrilineal societies? Among the Bush-Negroes, the father has a very definite place. For not only does he provide his children with food and shelter and other necessities of life until they are able to obtain these for themselves, but they inherit their personal food taboos, which are variously termed *tcina* (*kina* among the Aukaners, according to van Lier), or *trefu,*[13] from him. It is the family of one's mother to which one owes allegiance; from the father one inherits the food taboos of which one must beware lest infraction bring on skin infections, and persistent disregard cause the dreaded disease of leprosy.[14] The relationship holds much more significance than just heredity of a food taboo. The persons who have the same leprosy taboos are, obviously, related through the male line and the function of this relationship is the permitting of the violation of a fetich placed over a house, the mouth of a creek wherein one has fishing rights, a field, or any property which a man does not wish to be disturbed, and the violation of which by a person not having the same *kina* involves punishment by the power of the fetich.[15] The name of this fetich is the *ką du*[16] and it is a powerful agent in the economic life of the people through the preservation of property rights of the individual who cannot be present to guard what is his, if it has no greater religious or ceremonial significance, something I am not prepared to state at the present time. That the father, however, is a factor in the lives of his children, and that he is not merely the provider who steps aside once maturity is attained, is obvious. There is, of course, the personal bond which is tremendously variable from individual to individual. But all my informants have told me of cases, both among Aukaners and Saramaccaners, where the hold of a father on a child was so strong that this boy or girl (for cases involving daughters as well as sons were related and pointed out to me) went to his father's village to live on attaining maturity, in spite of the fact that the father, now separated from the mother, belonged to a village where the child would be a stranger. Detailed study of cases of this sort, from the point of view of Freudian psychology, offers fascinating opportunities; their mere statement serves strikingly to demonstrate the elasticity of the manner in which this primitive culture permits individuals of differing temperaments and inherent psychological composition to satisfy their natural bents.

---

[13] Schuchardt gives *tchina* (*kjina, tjina*), p. 107, and *treffe,* p. 110. For details, see the article (unsigned) entitled *Treef* in the *Encyc. van Ned. West-Ind.,* pp. 685–687. See also van Panhuys, L. C., The Trafe-Superstition in Surinam, in *Proceedings XXI Int. Cong. of Americanists,* The Hague, 1924, pp. 182–185.

[14] That this particular type of recognition of different elements contributed to one's social situation is derived from the Ashanti explanation of the parts the two parents contribute to one's being (which is also reflected in Ashanti social organization) is a conclusion that becomes almost inescapable. To quote Rattray, from *Ashanti,* p. 36: "It is the *ntoro* of the man mingling with the *mogya* of the woman that, the Ashanti believes, forms the child. . . . Thus each man and woman have in them two distinct elements—mogya (or blood) and ntoro (spirit); the former inherited from the mother and transmitted by her alone, and the latter received from the father and transmitted by him to his offspring." Bosman, writing of Ashanti in 1795, says, " . . . Each person here is forbidden the eating of one sort of flesh or other; one eats no mutton, another eats no goats-flesh, beef, swines-flesh, wild-fowl, cock with white feathers, &c. . . . The son never eats what the father is restrained from, as the daughter herein follows the mother's example; and this rule is so strongly observed amongst them, that it is impossible to persuade them to the contrary." (p. 400, vol. xvi of Pinkerton's *Voyages and Travels*). These two quotations exhibit cultural traits out of which the institution of the *tchina* might have been built up.

[15] The recognition of this type of spiritual relationship in the male line through the ability to lift a *ką du* may be regarded as the remains of the Ashanti *ntoro* exogamic divisions, composed of all persons related in the male line, the details of which are given in Rattray's *Ashanti,* chap. ii.

[16] cf. article *Kandoe* in *Encyc. van Ned. West-Ind.,* p. 398. de G. also refers to this spiritual guard, p. 217.

The largest unit in the social organization of the Bush-Negroes, aside from the tribe itself, is the *lɔ* (called the *lō* among the Aukaners, according to Mr. van Lier). Although basically the same in both tribes, it may be well to consider the *lɔ,* or clan organization of the Saramaccaners first and that of the Aukaner tribe afterwards. The *lɔ,* as explained to me by my informant, comprises the children of the "old, old grandmother all through the mother's line." Theoretically, among the Saramaccaners, it is exogamous, but actually, "if it is far enough," *i.e.,* if the relationship is somewhat vague, and if the lines of common descent cannot actually be traced through having been lost, marriage between two putative members of the same *lɔ,* may occur without making for the commission of a *pika·du,* or sin. The *lɔ,* is, apparently, more or less localized and one *lɔ* is dominant in one or more villages. A person belonging to the *lɔ* which controls the village is a *go mî·* of that village. This word, however, may not be spoken, because it is believed that if it is uttered the *lɔ* to which the person addressed belongs will die out. It was with some difficulty, as may be imagined, that this information was obtained, nor was I able to obtain any of the deeper implications of or the explanations for this fact. The obverse of this situation is the fact that a person residing in the village who is not a member of the dominant *lɔ,* as, for example, the case of a man living with his wife's people, is called a *wá· ka mą̀*—"wanderer." If a *go mî·* calls such a person by this name, it is an invitation to him to leave the village where he is residing.

I was only able to obtain a few origin stories for the various *lɔ,* such as are characteristic of African cultures. The tradition of their existence is said not to go beyond the period of the escape from slavery and this, in part, is reflected in their names, some of which are taken from the names of the plantations from which the majority of the ancestors of the present-day members of a given *lɔ* are supposed to have escaped.[17] It may be well, at this point, to give the names of the clans of the Saramaccaners, the meaning of each name, and the locale of each, with such remarks as are pertinent. Whether this list is complete or not I cannot say; I rather doubt it, as a matter of fact; but I was assured by Bush-Negroes with whom I was able to discuss it that any clan-names omitted are those of unimportant ones:—

---

[17] cf. de Goeje, op. cit., p. 68, where he mentions similar origin for the local groups among the Aukaners.

A bái· sa nɛ· gɛ:[18] meaning of the term unknown to me (African?); this *lɔ* dominates the villages of Lɔmbe.

Fą dá· ki nɛ gɛ: term derived from the name of owner of the plantation from which the ancestors of these Negroes fled, van Drachten; dominates *Gą dya kɔ· dɛ̀*.

A wà· na· nɛ· gɛ: meaning unknown (African word?); dominates the villages of Gansee, Aurora, and Guiyaba.

Dō mbi nɛ· gɛ: said to be derived from the fact that the ancestors of these Negroes fled from the plantations of a family named Levi; this term being the biblical one for priest, and derives from the Portuguese word for priest, in all probability. This *lɔ* is dominant in the villages of Abénastǫ, Pikí séeį, and Bōtō pasi.

Kwa má· nɛ· gɛ: this word = "bamboo," but no explanation of the use of the particular term was forthcoming, not the name of any village dominated by the *lɔ*.

Ba· ka pâu· nɛ· gɛ: literally, the name means white man's wand of office. I could not obtain the names of any villages it controls.

Gi pi ssi nɛ· gɛ: literally, "Indian piece," i. e., "Indian quarter." The explanation is that an "old grandmother" was an Indian and that the descendants therefore name their *lɔ* according to the fact that they come from Indians. No villages controlled by this group were recorded.

Ma tcą̂u· nɛ· ɛ: literally "axe," but no explanation was vouchsafed. The village of Beidotti and the chief's village of Asindopo Lantiwe belong to this clan.

Na sí· nɛ· gɛ: the descendants of slaves who escaped from the plantations of a family named Nassi, which still lives in the colony. These people control the village of Gą pa· dà.

Da o mɛ· nɛ· gɛ: these people live at the village of the same name and it does not seem unreasonable to relate the name, without further discussion to the African region of Dahomey. Bush-Negroes themselves say "the word is from Africa."

Po pó tō nɛ· gɛ: meaning unexplained. This is a very large *lɔ* and their village, at *Gṓ dṓ* is about as large as any on the Suriname River.

Lu ą́· gu nɛ· gɛ: these people live along the Grand Rio, far in the interior of Dutch Guiana and speak a special dialect which the other Saramaccaners cannot follow, I was told. Their principal village has the same name as that of the *lɔ* and it is interesting to speculate whether the term may not be derived from the name of the Loango region in Africa.

The type of relationship represented by the *lɔ* is perhaps best illustrated by the descent of Mr. Schmidt, one of my informants, who belongs to the *Awána· lɔ*. He traces his ancestry back to Arabi, one of the first Saramaccaner Kapteins (village-heads) to be recognized by the Dutch after the rebellion of the slaves, and Charlotta, a slave, whom Arabi stole from the plantation where she was owned. On marrying her, she was adopted in the *Awána· lɔ* and had five daughters (it is significant that her sons, if any, did not figure in the account). All of the descendants of these, in the female line, are members of the Charlotta *'bɛ̂* and since Charlotta herself had been adopted into the *Awána· lɔ*, these persons are also members of that clan. Arabi had three sisters, however, and therefore the members of the Charlotta *'bɛ̂* feel themselves related to the descendants of all these three in the female line, who in turn, though members of different *'bɛ̂*, also belong to the *Awána· lɔ*. And if there are details which are obscure in this account, as there of course must be, it lies in the fact that there is reluctance to talk of these matters to strangers, since to do so lightly is to court death.

---

[18] *nɛ· gɛ*, of course, is Negro, and is used rather than *lɔ* by the Saramaccaners in speaking of their clans. I gathered that the former word has rather ceremonial and mystic significance. The same is probably true of the Aukaners, where the word is *nɛ gre*. Sch., p. 92, gives it as *ningre*.

The *lɔ,* as far as any informant was able or willing to tell me, has no animal which it holds sacred or does not eat. However, there is a function which certain of the clans perform of guarding, utilizing, and passing on the "great *obias*";[19] the important fetiches which have certain definite magical powers to prevent hurt or to work specific cures. Certain of these I was able to record. The *Dō·mbi nɛ·gɛ* have the great *obia* called *Ma fų́· gu,* which calls back any one lost in the jungle; the *Da o mɛ* have the *obia* which heals broken bones, which no white man may ever visit, and which is called *Da o mɛ de ɛ ssi* (*Daomê* medicine); the *Nasí· nɛ· dɛ* have the *Fit·ti obia* which would help the Bush-Negroes in the event of war with the Whites; while the *Lu ą̀· gu nɛ· gɛ* have the *obia* (name unobtainable) which heals gun-shot wounds. Anyone who belongs to the proper *lɔ* is able to "work" the *obia* of his *lɔ,* so as to make it perform its beneficial results, provided he will make a study of the matter and prepare himself to be an *obia mą*. Such a one will have important influence in his village, as he will be consulted before any important decision is made—another phase of the life of the Bush-Negroes which, again, is typically African.

Though the clan group, among the Saramaccaners is somewhat largely amorphous, there is one individual member of the *lɔ* who is designated as its head. Any matter which touches it is in the hands of this headman and the old men, according to the general pattern of the making of decisions among the Bush-Negroes. The Kaptein or headman of the village must be a member of the *lɔ* which is dominant in that village—as a matter of fact, I was told that the headship of a village goes not only in the *lɔ* but also in the *'bɛ̂*.[20] Thus, all the head-men will represent all the clans of the tribe. The *gą mą*, head of the tribe, does not often formally assemble these headmen as such, but he exercises control over the occurrences in his territory because of the fact that he must be consulted before a problem of any importance is brought to a solution and must be kept well informed of what goes on among his people.

Among the Aukaners, according to Mr. van Lier, from whom I obtained my information concerning this aspect of the social organization of this tribe of Bush-Negroes, there are twelve *lō*.[21] These are divided into two sections, the

---

[19] See article *Obia* in the *Encyc. van Ned. West-Ind.*, pp. 515–516.

[20] De Goeje, *op. cit.*, p. 68, feels that the suffix *lō* as in *ɔtolō,* literally means "place" and has that significance to the natives: "Het actervoegsel-*loo*, dat in vele namen van buschnegerdorpen voorkomt schijnt plaats of 'dorp' te beteekenen; bijv. Paurie of Compagnie-loo. . . ." Whether the confusion in understanding the meaning of the term is de Goeje's, or is mine, I cannot say; it may be that the term has both meanings.

[21] Mr. van Lier has touched somewhat on this phase of the matter in his publication *Iets over de Boschnegers in de Boven-Marowijne,* which appeared in Paramaribo in 1919. At that time he listed only seven of the clans, pp. 37–38: the Opo clans, Totnegers, Misiedjannegers, Pinasienegers, and Braynegers, and the Bilo clans, the Ansoenegers, the Djoenegers, and the

Opo clans, living on the upper Marowyne River, and who hold the most favorable social position, the chief of the tribe always being selected from one of them, and their members having precedence over the members of the other clans in the joint assemblies; and the *Bilō·* clans. The distinction seems to be one of location, although this point was not too clear as we discussed it. The dividing line is the Gran holo Falls. Unlike the case among the Saramaccaners, these Aukaner clans appear to have definite form, and when the *gą mą* of the tribe calls the *opo-nœ·nga-bilō· kru·tu* (the assembly of the upper and lower clans) each *lō* appoints older members to represent it, and affairs of moment are discussed.

The local character of these groupings is apparent at once in any discussion of them, but I do not have the details of their location in my field-notes. Certain data on this point have already been given by Mr. van Lier in the publication already referred to.[22] The names of the clans, and the explanations of their meaning where this could be obtained, follow:—

Bilō clans:—

Pu lu gu du lō: literally, "take away riches." The name is a local one and is derived from the fact that the falls near which they live is a dangerous one, causing many wrecks of the canoes traveling by.

Pa ta lō: The Aukaners, according to Mr. van Lier, feel that is the name of an African tribe to which the original members belonged. No translation could be obtained for the word and I have been able to locate no tribe of this name in Africa.

Bre lō: the name is derived from the name of a slave-owner, one Mr. Bray, from whose plantation the slaves from whom the members of this clan are descended, escaped. These slaves, the story relates, were sent into the bush to hide from French invaders, thus to save them to their owner, but they refused to return to captivity.

La pɛ lō: the name comes from that of one of the great sugar estates from which the original members of the *lo* escaped.

Nyain fąi lō: meaning unknown.

Kompanyi lō: these are descendants of slaves who ran away from the plantations of the Dutch West-India Company.

Opo clans:—

Misi dją lō:[23] descendants of the slaves of one Mistle John. In the older days the chief of the entire tribe came from this clan.

ɔto lō:[23] derived from the name of the slave-owner, one Mr. Otto, from whom the forebears of the clan-members are said to have escaped. The last four *gą mą* of the Aukaners have come from this *lō*.

Ped ri lō: meaning unknown.

Pi· ri ka lō: the original members came from the region of the Perika River.

Dju lō: descended from slaves who escaped from the plantations owned by Jews.

Ą· su lō: the first members of this clan escaped from the Meerzork estates. The name of these plantations in the local dialect is Ansa; their locale was directly across from the Suriname River from Paramaribo.

It appears that each *lō* among the Aukaner tribe has its special tabooed animal; its own *tref,* something I could not find for the individual clans among the

---

Compagninenegers. The fourth in the list above was not included in the list which he gave me during the summer of 1928.

[22] Pp. 36 ff.

[23] Compare, for these names, de Goeje, *op. cit.*, p. 68.

Saramaccaners. This, unlike the personal taboo, is passed down on the maternal side, along with membership in the clan. Mr. van Lier knew only of one clan-taboo (totem?); that of the *ɔto lō*. And here, again, we have something strongly reminiscent of Africa. The relationship between the group may be best stated as that of a respectful protection accorded the animal as a payment for services rendered. The story of how this clan came not to eat their clan-taboo, the parrot, as related to me, is as follows:—

> The parrot is a bird which makes much noise. Late in the evening, long ago during the *lǫ tiŋ* (lit., run-time = time of running away), when these people were encamped on the Djuka River, the parrots started making a great noise. This drew the attention of one, who said, "Why do the parrots make such a noise at this unusual time?" The answer was that perhaps the white man's spies were near, and the enemy coming. They decided to run away, and they hid. Next day they sent spies to where they had been and found that the Bakra (white man) was in the village. So the parrots may not be shot or eaten, since they saved the lives of the *ɔto*.

This account is greatly like the one related to me by a Kru informant,[24] and like that given by Meek,[25] both of which account for the abstenance on the part of a clan from the flesh of a particular animal which, in some past time, has been instrumental in saving the lives of the progenitors of the present members of the clan. It may be further stated that in none of these cases is there any mystic relationship apparent between the members of the clan and what may be termed its totem-animal.

The final aspect of the social organization of the Bush-Negroes which we shall consider is that which involves the degrees of relationship which permit familiarity or impel respect. The first type, or joking-relationship, has not been, to my knowledge, discovered heretofore among these people. In essence, however, it is much like the practice among West African peoples, as will be clear when the details of the terminology are considered. It will be remembered that the term *avố·* is a reciprocal one used between daughter's children and parent's parents. Although it was included in the terms classed under the *'bɛ̂*, it was also remarked that it applied to all persons related to one another either on mother's or father's side in the second ascending generation, in the direct line. In addition to this term *avố·*, however, there are also the terms which follow:—

a man calls his mother's mother, mother's mother's sisters, and father's father's sisters; (mother's father's sisters?), (father's mother?):	*mu yɛ̂·* = wife
a woman calls these relatives:	*ką 'bố·*, derived from *ką 'bó· sa* "the second wife of my husband," lit., as was explained, "she who makes trouble for me."

---

[24] Siɛ Ta·gbwe, with whom I worked during the winter of 1927–28.

[25] *Op. cit.*, p. 107. Meek also gives facts regarding the association of the village and the clan-grouping which are highly reminiscent of what has been stated for the Bush-Negroes on this point; *op. cit.*, pp. 113 ff.

a man calls his mother's mother's brothers, father's father (mother's father?), (father's father's brothers?):	*ma·tì* = friend
a woman calls these relatives:	*ma·nu* = husband

On the other hand, the relationship is a reciprocal one:—

a man who calls the females of the grandparental generation *mu yɛ·*, is called by these persons:	*ma·nu* = husband
a woman who calls females of that generation by the term *kạ 'bố·* is called by the same term by them:	*kạ 'bố·* as above
a man who calls his male relatives of the grandparental generation *ma·tì* is called by the same term by them:	*ma· tì* = friend
a man who calls males of that generation *ma·nu* is addressed by them as:	*mu yɛ̂·* = wife

The reason for the existence of this joking-relationship between the children and the grandparents or great-aunts or -uncles, as envisaged by the natives, could not be ascertained. Arguing from the strictly analogous relationship found in Northern Nigeria by Meek, it would seem that it emphasizes the fact that since no marriage is possible between persons belonging to these generations, the feeling between them is relaxed.[26] This is made the more plausible by the fact that it was stressed by my Bush-Negro informants that one is very careful in speaking of sexual matters to one's parents; almost as careful as he is careless with his grandparents. For persons who are joking-relatives regard one another as "funny people." "I can make any sport with them," one informant told me; that is, speak of sexual matters in the broadest manner possible, matters which one does not ordinarily mention at all. But to these persons one may, with impunity, say anything anywhere.[27] The use of the terms for husband and wife applied to joking-relatives of the opposite sex was explained to me merely as signifying that these people may say anything to each other "as husbands and wives can do it." The term *kạ 'bố,* however, has come to have a greater extension, for at the present time, I was told, almost every young girl of a village will address all the old women of the village by that term. This was explained to me as having two reasons, first, that almost every old woman of a village would be the *a vố·* of any given girl of that place, and second, that whether she did stand in that relationship to her or not, she was regarded by the young woman as being a potential trouble-maker for her, in any event.[28]

---

[26] What Meek, *op. cit.*, pp. 272–276, states about this "playmate relationship," as he terms it, is strikingly applicable to the Bush-Negro institution. It is between persons of the grandparental and grandchild generations, and he states that this relationship is found "in Nigeria and among most Negro peoples"—presumably referring to West Africa. I found a similar feeling toward his grandparents on the part of my Kru informant.

[27] One quotation from my informant on this point is especially apt when compared with similar quotations from Meek, *op. cit.*, pp. 275–6: "Well, grandmother, last night I slept with you; how do you feel this morning?" Almost any of Meek's quoted remarks in the joking-relationship might have come from my field-notes.

[28] I have no data on the joking-relationship among the Aukaners; the above applies solely to the Saramaccaner tribe. It is to be noted that de Haan, *op. cit.*, p. 108, gives the following in his word list: "Oude man, *Gran sembe;* bij aanspraak: *mati,* Oude vrouw, *Gran sembe;* bij aanspraak: *oema.*"

Respect is the characteristic attitude found between a person and his parents-in-law. The terms by which they are addressed may be given first; my impression is that they are all reciprocal:—

Husband's or wife's father: *pâ̯i* (Sch., 94, pai)
Husband's or wife's mother: *mâ̯i* (Sch., 85, mai)[29]
Husband's sister: *sí sa· mâ̯i*
Husband's brother, wife's brother or sister: *swa· gì*[30]

The relation between the parent-in-law and his child's spouse is one involving the greatest constraint. They may not sit on the same bench with one another; they may not look directly at one another at any time, even when conversing; one may not address his *pâ̯i* or *mâ̯i* by name; the younger of the two in the relationship must step out of the path of his *pâ̯i* or *mâ̯i* until he has passed before resuming his journey; one may not go underneath a hammock in which either is sleeping; one may not see a *pâ̯i* or *mâ̯i* naked, nor bathe nor wash any part of the body excepting the hands in front of them; one may not speak of sexual matters before them; and one may not eat out of the same bowl with them nor sleep in the same house where they are sleeping. This is only the list of such prohibitions as I was told; it is enough to make the point that the offering of respect to parents-in-law means constant attention to conduct while in their presence. One who offends these mores, to quote an informant "will be carried before the uncles of the girl (the informant was a man) and they will speak hard words with you." Repeated infraction of the etiquette of avoidance may cause the maternal uncles to decide to nullify the marriage, and, I was told, that to lose a husband or a wife for this reason "is very bad."

In the case of a spouse's brothers and sisters, the attitude differs strikingly according to their age in relation to one's husband or wife. If older, almost the same respect shown to one's *mâ̯i* and *pâ̯i* is called for, although in this case it is not quite as rigid. If the brother- or sister-in-law is younger, however, one may be quite free with him, and "make funny" in about the same manner as with grandparents. It is a strict rule, that in the event of the husband's death, one of his brothers, especially the younger, is expected to marry his widow, although if there be no younger brother available, an older one may marry her. The reason given for this is that the widow is now alone and must have some one to support her; but it was made clear to me that whether her own family be willing to take over this obligation or not, she must marry her deceased husband's brother. This would explain the freedom with younger brothers-in-law, perhaps, but would be clearer if the term for younger brother of my husband and that for husband, were the same. The whole matter is the more puzzling because of the fact that the older brother, also a potential husband, is avoided, while the wife's sister, younger or older, although made free with or avoided according to whether she be older or younger, is not necessarily a potential mate, as there is no rule compelling marriage with one's deceased wife's sister. As a matter of fact, according to my information, this is not often done. What we are probably dealing with is a somewhat disintegrated case of the heredity of a widow by an older brother, so common in Africa, and the replacement of a deceased wife by her sister, a custom that is also found, especially in the Congo.

---

[29] These terms were also given me by my Aukaner informants.

[30] Compare, de H., p. 108 "Zwager, *Soewagi*," which is not only corroborative but undoubtedly indicates the origin of the word. The relation to the Dutch-Flemish "Zwager" was also kindly brought to my attention before I saw de Haan's note by my friend, Doctor Frans M. Olbrechts.

Little attempt can be made here to analyze the cultural elements in the social organization of the Bush-Negroes as we find it today into their probable sources of origin. The analysis of the manner in which the American Indian, European, and African cultural traits have been combined and integrated by a kind of cultural chemistry into a unified whole, found today as a complete culture that is a going concern, is a matter that must wait for more complete information and further inquiry into the historical origins of the Suriname Negroes in West Africa. This can be attained only through the examination of early accounts and the more detailed comparison of contemporary West African cultural traits with those found in Suriname today. But that such an analysis will serve in large measure to unravel the perplexing problem of the points of origin of the Negroes in the New World and will also throw light on the nature and behavior of inherent racial characteristics and the processes of cultural change, is not to be doubted.

NORTHWESTERN UNIVERSITY,
EVANSTON, ILLINOIS.

ORNAMENTS OF THE BUSH-NEGROES IN DUTCH GUIANA; A FURTHER CONTRIBUTION TO RESEARCH IN BUSH-NEGRO ART

By L. C. van Panhuys

BETWEEN 1893 and 1896, during a stay of more than two and a half years at Albina Station on the Marowyne (or Maroni) River in Suriname, Dutch Guiana, we collected a number of Bush-Negro ornaments. The Bush-Negroes lived in a village of their own, adjacent to the Station, for days and weeks, sometimes for months and longer, awaiting commissions to transport passengers and merchandise up the river and its cataracts to the far distant gold fields, or perhaps for their own pleasure. They belonged, for the greater part, to the Djuka, who resided in the far-off Bush country, well in the interior, in the villages on the Tapanahoni. When at the Station they conducted themselves, as far as we knew, as they did in the Bush, with but slight differences as, for example, a more liberal use of clothing and the avoidance of a few customs not in agreement with those of civilization. Thus Albina, lying near the sea, a healthy place, nearly free from malaria, which cannot be said of the Tapanahoni region, was (and still is) an excellent place for observation of native life. Part of the ornaments obtained were explained to the author by the makers themselves and other information was available from fellow-tribesmen, who knew the meaning of the same kind of ornaments. More precisely, it was the unexpected discovery of the fact that every ornament had *a name and a meaning* which led to the accumulation of drawings and rubbings wherever it was impossible to obtain the ornamented objects themselves.[1]

It is curious that notwithstanding our repeated appeals to students in the past thirty years, no one seems to have realized the desirability of securing additional Bush-Negro ornaments and their meanings. Mr. C. H. de Goeje and Captain Bisschop van Tuinen are the only exceptions.[2] They alone have, during their stay in Suriname,[3] in the short space of time available, taken the trouble to make as thorough an investigation as possible. So our experience with Bush-Negro ornament, together with the work of the two scientists named above has stood alone, and cannot be compared with other results. We believe, however, that a complete description and explanation of the ornaments such as we have brought together, either in drawings, or represented by objects or carvings, will afford a fruitful later comparative study.[4]

---

[1] This subject was also dealt with on pp. 209–212 of the *Proceedings of the Thirteenth International Congress of Americanists,* held in New York in 1902, and afterward in other articles, the latest appearing in 1928 in the *Proceedings of the XXII International Congress of Americanists,* held at Rome in 1926, under the title: Quelques ornements des nègres des bois de la Guyane néerlandaise, with the explanation of thirty-five figures to which was added a bibliographical list of forty-five titles.

[2] We mention also the excellent work of Doctor Gerhard Lindblom.

[3] See the reports on the Gonini and Tapanahoni expeditions in the list of literature quoted.

[4] In 1928 Doctor Melville J. Herskovits, of Northwestern University, and his wife, together with Doctor Morton C. Kahn, of Cornell University, visited the Saramacca Bush-Negroes in

In our possession is a collection of drawings and rubbings, in addition to a few objects, the remaining specimens having been loaned to the Royal Colonial Institute at Amsterdam. We intend to continue our descriptions and hope to publish a former revision on the occasion of the next Congress at Hamburg in 1930.

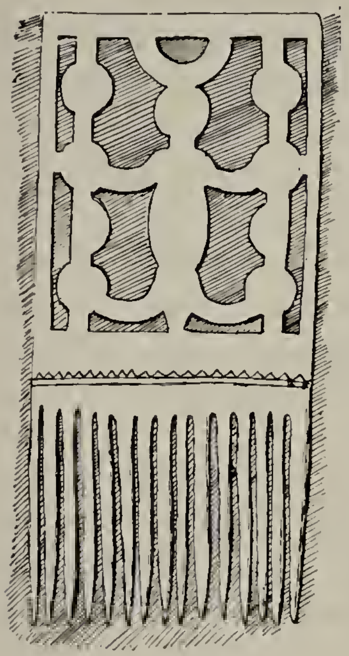


Fig. 1—A comb with handle carved to represent a man wearing a basket on his head

We wish to discuss now some typical and interesting drawings and rubbings in our collection and the figures of the two plates in the Proceedings of the *XIII International Congress of Americanists* quoted above, which were reproduced in 1905, unfortunately, without special explanation.

Our Fig. 1 represents a comb, which we copied, in the presence of the Bush-Negro owner in 1893, by sliding a pencil perpendicularly along the sides. In the middle of the grip or hold is carved a man carrying a half-moon shaped basket on his head. His arms and legs are stretched, his legs moreover symbolized and so are also the genitalia. On either side of the body are circles and half-circles, representing spindles for spinning cotton. The basket on the man's head may serve to carry the cotton. The hands and feet are reproduced in the same form as the spindles. The triangular carvings between the grip and the teeth of the comb represent teeth of a swordfish or a saw. The comb was made of the hard wood of the *agido sperma excelsa* by the Bush-Negro, Andóni, hailing from Mooi Luabi Village.

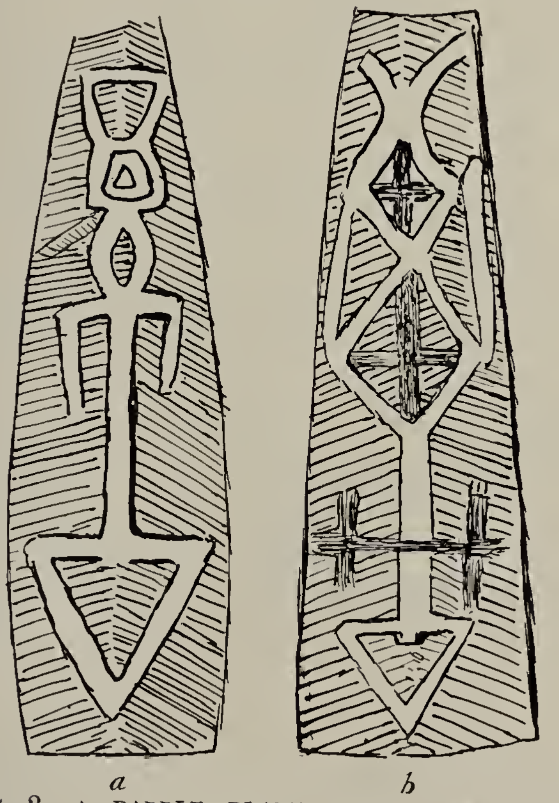


Fig. 2—A paddle blade with symbolical painted decoration: *a*, a woman balancing a mortar on her head; *b*, a man holding a vase on his head

On the transparent paper which

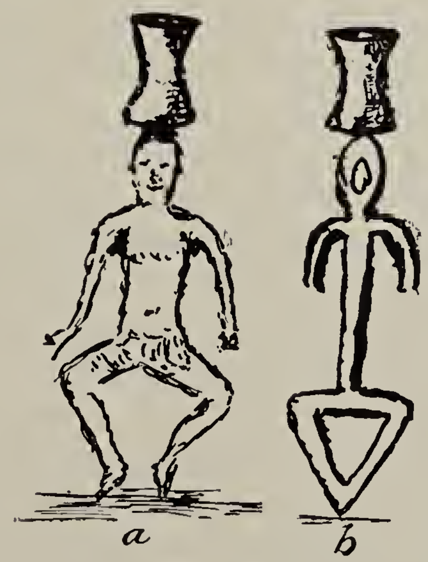


Fig. 3—Analysis of symbolism of designs shown in fig. 2

Suriname. They brought back a large collection of objects which will be exhibited at Northwestern University and in the American Museum of Natural History. If this expedition returns to Suriname, it will pay special attention to the symbolism of Bush-Negro ornaments.

we have used for copying our drawings we have also set down the remarks of the Bush-Negro, to emphasize the authenticity of the drawings. These, however, will not be reproduced in the illustrations.

Fig. 2a, b, are copies, on a scale of about one-sixth, of the decorations, painted in white on both sides of a paddle blade. The maker was traveling about and the paddle was thrown carelessly aside. Fig. 3a and b will help to clarify the meaning of Fig. 2a and b. In Fig. 3a we sketch a man in dancing position, balancing on his head a *matta* or wooden mortar, such as is in use among the Bush-Negroes as a household implement. Fig. 3b has the same meaning but represents, so to speak, Fig. 3a in symbolical form. The head has become oblong; the arms, which are too short and without hands, hang down; the body is represented by one long stroke. The legs form a triangle and the knees are indicated quite distinctly (differing from Fig. 1). It is clear that Fig. 2a is the same as that reproduced in Fig. 3b.

We do not know what the dark stripes signify here. At first the painter had, as may be seen in the original, intended to add an indication of the masculine sex, but had changed his mind and had wiped this indication out, but insufficiently.

Fig. 2b is a counterpart of Fig. 2a. We observe at the base of Fig. 2b the same triangle as in Fig. 2, representing here also the legs of a person; this time the sex-indication points out clearly that the painter intended to represent a man. The upward stroke means the body, but higher up we are led into confusion. Was the artist at a loss where to fix the arms? He placed them about the middle of a rhomboid. Does this rhomboid symbolize the head? We think that, as should be done when trying to discover the meaning of more modern civilized pictures, we should not be too definite here. It may be that our Bush-Negro artist symbolized shoulders and head together in one form which was pleasant to the eyes, viz., as a rhomboid. This possibility must be emphasized. In matters of ornament, parts of a body may become very unreal, vague, and indistinct, as will be shown later in another example.

The two upstretched arms hold a symbolical vase, the bottom of which is pointed. The lip of the pot is not visible. The two crosses made by dark stripes on the vase and on the rhomboid are meant as decorations.

It is possible that the maker of both ornaments, Fig. 2a and Fig. 2b intended to paint a man and a woman, dancing with a vase and a mortar on their heads, perhaps to preserve the memory of what had really happened. We may find it perhaps just a little strange when we think of our own modern ballrooms, but we must be aware that Bush-Negro dancing is always in the open air so that there is always plenty of room and that the negro, in general, has a great ability to balance objects on his head.

Fig. 4 reproduces a carving on a small paddle. We copied this ornament by holding a piece of paper over the blade and rubbing over it with a pencil. It represents a man with his arms and legs detached from his body. We must point out that the loss of cohesion is a phenomenon not unknown in ornamentation. Special attention must be paid to the strange form of the left arm—this method of reproduction or stylization may be recognized in ornaments of other peoples as may also the triangular or rhomboidal shape of hands and feet and of the sexual part, and the elliptical form of the body. The ellipse represents the eye of the iguana, a lizard (*Lacerta sp.*). As we have stated in our previous articles in the *Proceedings* quoted, the lizard eye may have the hidden meaning of the feminine sexual part.

Much more realistic are the ornaments in the next two illustrations, Figs. 5a and b, carved on both sides of the blade of a large paddle and reproduced by us in the same way as the former. Fig. 5a signifies a naked man, wearing on his head what my informant thought to be perhaps the rib of a boat, but what is, in reality, a bonnet; the man is bitten by a snake in the thumb of his left hand, while he bears in his right two *aputus*—stone axes of Indians or thunderbolts.[5] Above the right shoulder a gun seems to protrude; near it are a sword and a bow. At the left side a snake coils up, as snakes actually do in the Bush; near the left knee we perceive the barb of an arrow.

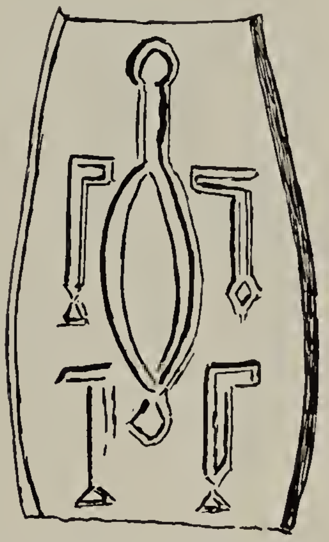


FIG. 4—A PADDLE CARVING SYMBOLIZING A MAN WITH DISJOINTED LIMBS

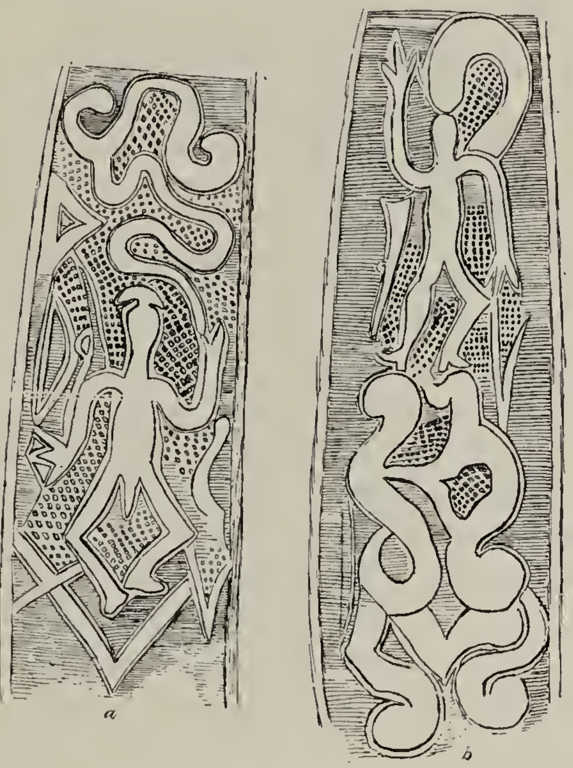


FIG. 5—PADDLE DECORATIONS: *a*, A RED-CAPPED SOLDIER OF THE EARLY NINETEENTH CENTURY; *b*, A WOMAN IN DISTRESS?

This figure, without doubt, represents a *ledimusu*, or red-cap soldier, belonging to the negro soldiers who were formerly employed in the fights with runaway slaves. In 1805 under the government of Brigadier-General William Carlyon Hughes, during the British occupation, a detachment of seventy or eighty of these soldiers murdered their officers and fled from the upper Commowini to the Marowyne, where they joined Bonni-Negroes, attacked the Armina Post near the first cataract and were driven back. Hughes himself came to Armina, but judged it impossible to pursue them. Later they became dependents of the Aucaner or Djuka Bush-Negroes. We have given particulars of this incident in our article on the *Marowyne River and its History* (second edition, 1908).[6]

In Fig. 5b a woman, wearing shoes, is threatened by a serpent (is under the influence of the snake god?) above her head. Her right arm is lifted, as in despair. At her right side we perceive a gun; at the left, the barb of an arrow. The lower part of the drawing shows a combination of snakes.

---

[5] See my article in the *Proceedings of the XXII International Congress of Americanists* quoted above.

[6] See our quoted list of literature.

It is important to inquire further of the Bush-Negroes themselves as to the meaning of these drawings. We assume they still remember a great deal of their history, and that they may very likely offer an explanation, if our supposition as to snake-god influence is correct.

In addition to the above-mentioned ornaments, all of which bear some relation to the human form, we will treat a few others.

Fig. 6 represents part of the blade of a stirring-paddle, made in 1893 by our young friend, Abjensi, a boy perhaps ten years old. The design is carved in wood in low relief. According to Abjensi, the hollowed-out ornament had its origin in cutting out two stars. These star-holes were enlarged at both ends, at the bottom, and on top, in such a way that holes were formed in the shape of parrot tongues. So the whole ornament consists of the combination of two stars and four parrot tongues.

The angular motives at the borders of the blade represent teeth of the swordfish or of a saw. The leaf-like carvings at the sides represent lizard eyes, as do the three carvings at the top. At the bottom of the drawing we observe a fish, a *sardenki*. Asked what the inverted V-shaped ornament meant, Abjensi, answered: ''Masra, don't you see? Look there, it is the dove-cote of Mr. Akai (the Chinese merchant).'' Indeed such a small roofed house, a dove-cote, was visible from where we sat; Abjensi had made this carving during our conversation.

It does not often happen that we, civilized people, are present at the moment that the idea of an ornament occurs in the brain of a native and is realized in carving, so that we may thus obtain some understanding of the process which has taken place.

For the decoration of the blade of a food-stirrer, see Fig. 7. Abjensi could give no other explanation than that there were perhaps two parrot tongues in it (in the form of fans), with lines around them. But if we place the drawing upside down, as is done in our illustration, we presume that the whole represents a candlestick, such as there are in our collection at the Colonial Institute at Amsterdam. The ellipse represents the flame in this case.

We wish to call attention to the fact that nobody seems to have been able to discover the kind of ceremonies in vogue in connection with the *kandla-tiki* or candlesticks, notwithstanding that Pleyte mentioned the problem as early as 1896.[7]

Fig. 8a, the handle of a stirring-stick, represents snake heads. Between the bodies of the snakes is a star; a parrot tongue in the form of a fan is cut out at the bottom. Fig. 8b is the handle of a small wooden sword with typical ornaments. On top, two fowls with beaks touching each other stand on a two-headed snake. This snake (with a head at each end) is borne by two cocks of indistinct form, standing in the same position as the hens on top, with beaks touching. The openings carved between the claws of the hens are *zoö-nangla,* nails of the sloth (*Bradypus*). Between the cocks is a parrot tongue and directly beneath it another of a different kind of parrot. To the right and left of this last tongue are two snake heads.

---

[7] See his short article, with a figure, on the *kwakwa-bank*, *Globus*, 1896.

It is curious that the maker would not give the real meaning of what he named *krullu* (scrolls), but which were snakes, as may be easily seen. It was one of the first Bush-Negro ornaments which we recorded, the maker, being unacquainted with us, was suspicious and seemed disinclined to reveal to the white man what he considered to belong, if not to his own religious ideas, then at least to the belief of his forefathers.

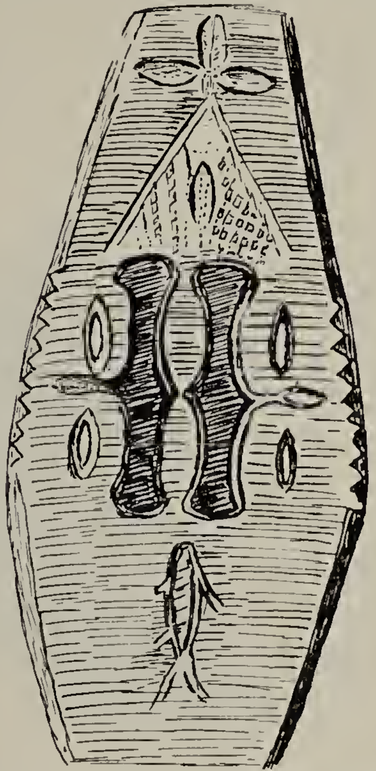


Fig. 6—carving on a stirring paddle: a dovecot and other ornaments

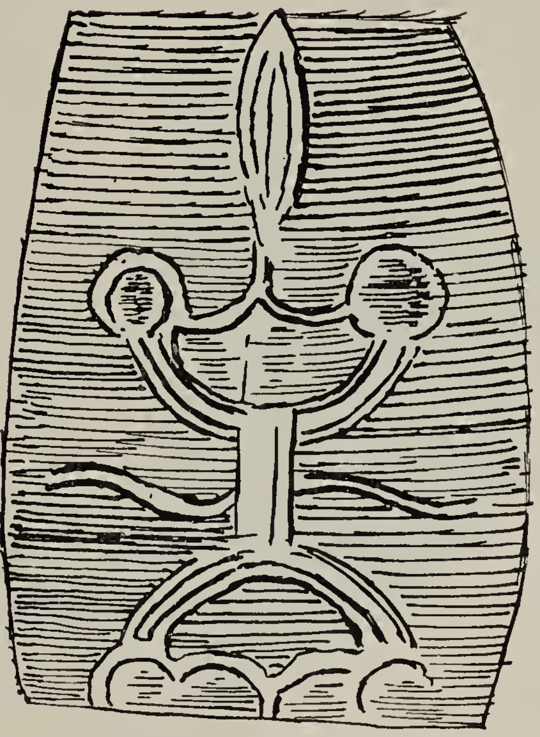


Fig. 7—a reproduction of a candlestick?

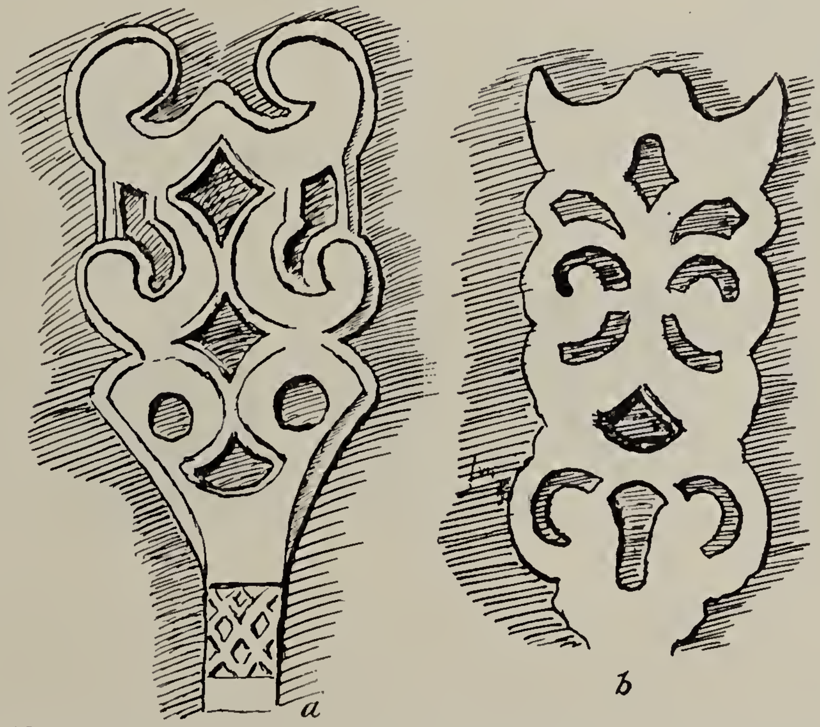


Fig. 8—symbolical carving on the handle of a stirring stick and a small wooden sword; *a*, snakes and a parrot tongue; *b*, fowls and snakes

The following figures are reproduced from the two plates in our article quoted.

Figs. 8a and 8b are carved out in the inner side of a calabash. Fig. 8a probably represents four persons or perhaps four frogs, forming a cross. The ornament may have been copied from the Indians. A comparison with Fig. 41 of our article published in 1898,[8] will be interesting. We find here the same uncertainty as to the connection between and the real place of the members of the body as treated above under Fig. 2b. The legs, or paws, are represented by rectangular lines enclosing white streaks, but the head and body must be imagined to lie between the white streaks and to be represented by the traced rectangles.

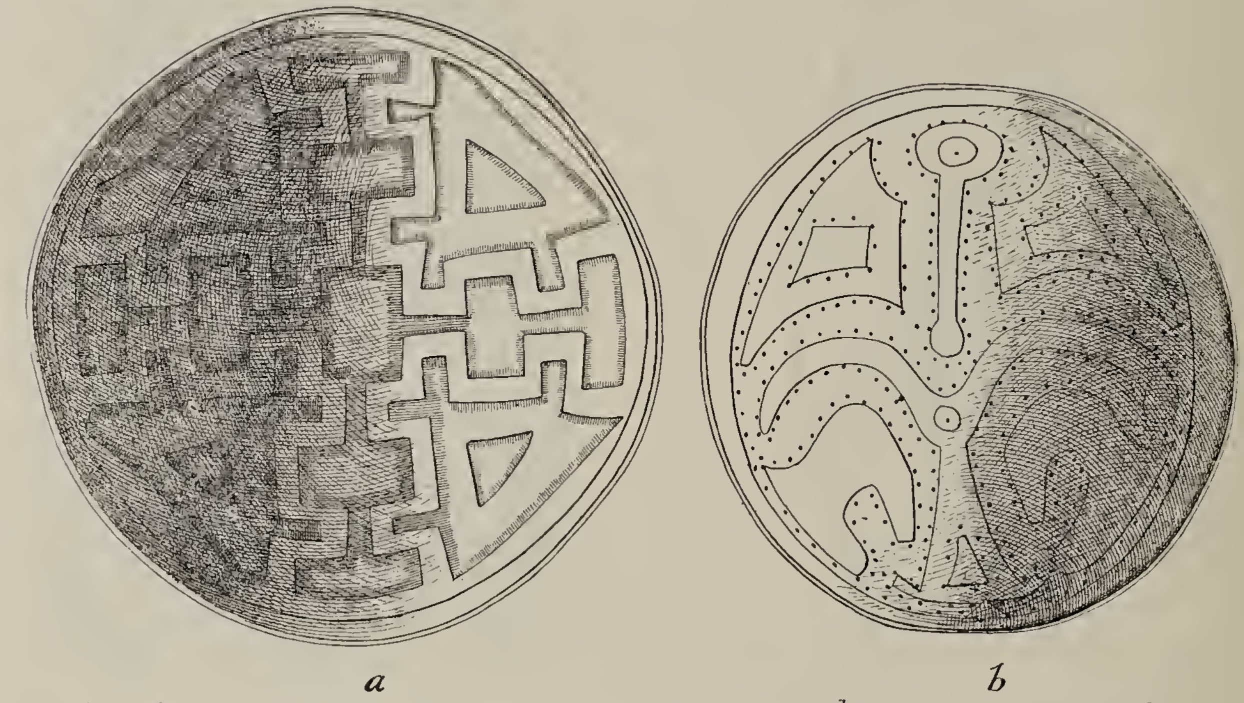


Fig. 9—Calabash decorations: *a*, four individuals; *b*, a cock split in two

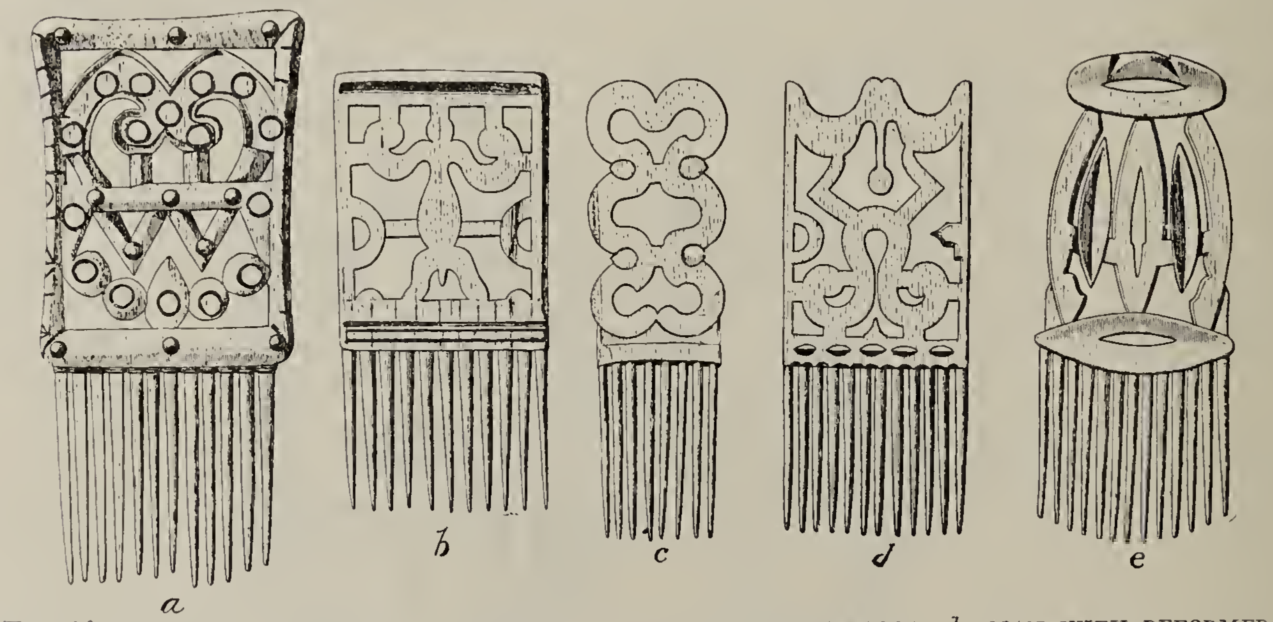


Fig. 10—Combs with carved handles: *a*, snake head, Saramacca; *b*, man with deformed arms, Djuka; *c*, snake with "navels"; *d*, birds bearing an egg and standing on a snake; *e*, combination of thunderbolts or stone axes, Djuka

---

[8] *Internationales Archiv für Ethnographie.*

Both this ornament and the position of its decorative motives deserve minute attention. The ornament, composed of four emblems, viz. four human figures or frogs, placed two and two opposite each other, gives us the key to a remarkable figure reproduced by Doctor Gerhard Lindblom[9] in his *Einige Details in der Ornamentik der Bushneger Surinams,* where an ornament is given which according to Doctor Lindblom belongs to the ''throne'' of the Bush-Negro *Gran Kapitan* or Great Chieftain, *Broko-hamaka.* In this figure two series of four emblems (human figures?) are placed one on top of the other so as to form a kind of double cross of eight beams.

Such a curious method of crossing and intercrossing will be found in the hat of a woman of the Olo mgadju (Mus. Harburg, Inv.-Nr. 2023) and in a bag of the same (Hofmuseum Wien, Inv.-Nr. 3712) in *Die Verwendung der Menschengestalt in Flechtwerken* by Doctor Wilhelm Hein.[10] Perhaps—and here also we have to hazard a large step—also in the prehistoric bronze wheels illustrated in *Die Altertums forschung in Bosnien-Herzegowina* by Doctor M. Hoerness.[11]

The explanation for the remaining figures is readily given. Fig. 9b signifies a cock split in two and is carved in the inner side of a calabash. Figs. 10a to e represent combs, on the handles of which are reproduced differently a realistic snake-head; two reversed triangles representing snake-heads and (on top) a snake body. Fig. 10b is a man with deformed (snake-formed) arms. Fig. 10c is a snake with four rounds or *kumba,* viz. navels of the snake. Fig. 10d represents two birds with beaks touching and bearing an egg standing on a snake. A snake head emerges at the right side. The handle of the last comb, Fig. 10e, is a composition of ''thunderbolts,'' *dondro-ston* or stone axes. Fig. 10a is made by a Saramaccaner; the four others are the work of Djuka Bush-Negroes.

We conclude by putting forward the thesis that an analysis of some of the typical ornaments as interpreted above—perhaps we might say, of the ornaments *thus revealed,*—may throw more light than can otherwise be done upon the manner in which, among primitive and prehistoric man, faculties of perception or apprehension and those of thinking or reasoning are correlated with one another.

Gorinchem, Netherlands.

---

[9] *Riksmuseet Etnografiska Avdelning, Smärre Meddelanden,* Stockholm, 1926.

[10] *Mitteilungen Anthropologisches Gesellschaft in Wien,* Band XXI, 1891, Fig. 82 and 83.

[11] *Globus,* Band LXI, p. 152, 1892.

LA NAVEGACIÓN PRIMITIVA Y LAS CANOAS MONOXILAS (CONTRIBUCIÓN A SU ESTUDIO)

Por Fernando Márquez Miranda

I

El problema de la navegación en los tiempos primitivos ha cobrado, por estudios de reciente data, un interés especial. Me refiero, sobre todo, a las cuestiones suscitadas por las teorias del Doctor Paul Rivet, secretario general del Instituto de Etnología de la Universidad de Paris, y cuyo nombre es ya mundialmente conocido entre los cultores de las diversas disciplinas que se agrupan bajo al rótulo general de ''americanismo'', o ''estudios americanistas''.

El Profesor Rivet, después de repetidas oscilaciones de su pensamiento respecto de la ruta seguida por los pueblos de origen oceánico en sus migraciones a América, parece haberse decidido al fin por la del camino rumoroso y cambiante del mar, apoyándose, a tal efecto, en una arriesgada hipótesis del sociólogo Mauss. Ahora bien, no es mi propósito intervenir en tal debate. Mas modestamente, solo deseo ocuparme de las canoas simples, monoxilas, y no de aquellas mas complejas, de doble balancín, que, según Rivet y Mauss, habrían sido las utilizadas para aquellas migraciones. Para ello, he de retomar el tema parcialmente utilizado por M. Tabariès de Grandsaignes[1] en el *Congrès International de Anthropologie et d'Archéologie préhistoriques,* de Monaco. I, por tratarse de un tema sobradamente vasto como para no solo efectuar una breve comunicación sino, tambien, para escribir un libro, he de limitar mi investigacion de fuentes a los mas representativos autores que, antigua o modernamente, han aportado incidentalmente datos acerca de estas construcciones de los aborígenes del Brasil, Paraguay y región mesopotámica argentina.

Pero, antes de ello, conviene hacer notar que esta preocupación por las rudimentarias canoas de este carácter, comienza desde los primeros años de la conquista. Así, Don Pedro Martyr de Angleria (o de Anglera, o Anghera, que de todas estas forma diferentes suelen escribir su nombre los historiadores), se ocupa de ellas, con especialisima atencíon, a lo largo de las páginas curiosas de su *De Orbe Novo.* Una rápida recorrida de éstas, puede dar idea de la veracidad de esta afirmacíon. Apenas iniciada la primera década, nos encontranos con el siguiente párrafo:—

''En cuanto al navio que habia tocado á la roca, hicieron [los indios de la Española] salir a nuestros hombres y todo lo que él contenía y lo transportaron sobre la rivera, con toda prisa y gran alegría, sirviendose de sus barcas que llaman canoas. Se hubiese dicho parientes que llevaban socorro á parientes; ciertamente entre nosotros no se hubiera procedido con mayor caridad. Estas canoas son fabricadas con un solo tronco de árbol que ellos socavan con piedras puntiagudas. Son largas pero estrechas. Tambien diremos que estas canoas son monoxilas (hechas de una sola pieza de madera). Se pretende que se han visto varias que podían recibir hasta veinticuatro remeros.''[2]

---

[1] de Grandsaignes, Tabariès, La navigation et les procedes de fabrication des pirogues monoxiles, *Congrès International d'Anthropologie et d'Archéologie préhistoriques, Compte rendu de la treizième session,* Monaco, 1906, Tome II, pp. 349–366, con 7 figures en el texto. [Imprimerie de Monaco, 1908.] El muy intersante trabajo de M. Tabariès de Grandsaignes de resiente de una despreocupación perjudicial por lo que se refiere al dato exacto. El autor transcribe párrafos de autores clásicos o modernos, pero solo da la muy somera referencia del título de la obra, sin indicación alguna de la página o capítulo, o, al menos, de la edición utilizada.

Párrafo, que hace decir a Paul Gaffarel, su discreto comentarista:—

''Las barcas de los insulares han llamado vivamente la atencion de Martyr. El vuelve en numerosas ocasiones acerca de su fabricación e insiste siempre sobre las extrañezas de su maniobra.''[3]

En efecto, entre las numerosas virtudes de Pedro Marytr—empeño en buscar al dato en quienes efectivamente lo habían visto y vivido, cultura extensa que le permite desdeñar, en veces, las preocupaciones vulgares—no se encuentra la de saber seleccionar dentro del amplio material de que disponía, desechando lo ya dicho en anteriores ocasiones. Por el contrario, ya fuera por que sus decadas y cartas, destinadas a diferentes ilustres personalidades, debían, segun su creencia, consignar reiteradamente el mismo dato, o ya que lo hiciese de una manera voluntaria para subrayar con la repetición la importancia de lo consignado, es el caso que numerosos tópicos estan alli enunciados hasta el infinito. Uno de ellos, éste de las canoas monoxilas y de sus procedimientos de fabricación.[4]

---

[2] Martyr de Anglera, Pietro, *De Orbe Novo*, edición francesa con notas de Paul Gaffarel.

[3] *Ibidem*, nota 4, de Paul Gaffarel.

[4] Así, por ejemplo, en esta primera Decada, hay otras dos indicaciones coincidentes con la anterior. ''Colón dió la señal de partida. No llevaba consigo ningun Canibal [de Guadalupe] pero hizo destrozar sus barcas cavadas en un solo tronco de árbol.'' (*Ibid.*, p. 24). Alonzo Nuñez llega a Curiana. La población la hace señas de ir a tierra. Nuñez, desconfiando, les invita a acercarse en sus barcas. Martyr agrega, entonces: ''Estas barcas son cavadas en un solo tronco de árbol, como las otras, pero mas informes y mas dificiles de manejar que las de los Canibales o las de los insulares da la Española. Se las llama *Gallitas.*'' (*Ibid.*, p. 100). En la segunda Década ocurre de la misma manera. Refiriendo las hazañas de Vasco Nuñez de Balboa, ''este insigne matón,'' como le llama Martyr con expresión soberbia (*Ibid.*, p. 161), nos cuenta que: ''Vasco en persona se traslada con un centenar de hombres montados sobre un bergantin y sobre barcas indígenas cavadas en un solo tronco de arbol, que los insulares de la Hispaniola llaman *canoas* y las gentes de Uraba *Uru*'' (*Ibid.*, p. 171). Los indigenas huyen y los españoles toman abundante botin. El relator no olvida mencionar en él barcas de pesca y canoas, dedicándoles atención especial (p. 172), así como decir que, a la vuelta de la expedición, habiéndose producido una tormenta de produjo la perdida de algunas de las *uru*, es decir de las barcas (p. 173). Mas adelante encontramos la referencia de que los caciques del golfo de Paria, llamados chicones, ''hicieron a la mar sus barcas cavadas en un tronco de arbol: son esas barcas de las que hemos hablado en la primera Década, aquellas que se llaman *canoas* en la Española. En cuanto a las barcas los indígenas les llaman *chicos*'' (p. 197). Los caribes realizan expediciones armadas contra la isla de Santa Cruz. Matan a un cacique aliado de los españoles. Martyr no puede dejar de decirnos que: ''Dan por pretexto que este cacique había violado las leyes de la hospitalidad con respecto á siete Caribes, constructores de navios, que habían sido dejados en San Juan para construir algunas canoas, atendiendo a que en San Juan se encuentran árboles muy elevados y que convienen mejor para la fabricación de canoas . . .'' (p. 202). En la tercera Década, las referencias son igualmente numerosas y concordantes. ''El [Vasco Nuñez de Balboa] se embarcó en un bergantin y diez barcas del pais, cavadas, cada una, en un solo tronco de árbol'' (p. 223). Los indios aprecian mucho las hachas de hierro, ''pues no tienen hierro ni otros metales mas que el oro, y les es muy dificil, sin instrumentos de hierro,

Así como en los poemas homéricos cada heroe goza de un epiteto que acompaña invariablemente a su nombre, de la misma manera parece ser que casi no pueda Martyr escribir la palabra ''barca'' sin agregar a continuación ''cavada en un solo tronco de árbol.'' Como quiera que sea, conviene dejare consignado que este interés por la primitiva navegación aborigen nace, en la literatura histórica, con el famoso obispo de Jamaica—a la cual nunca llegó a arriesgar viaje—que reunía en si la curiosidad omnivora de un periodista moderno y la distincíon de maneras de un dilecto anfitrión de conquistadores.

II

Entre los autores antiguos que han tratado el punto, en lo que se refiere al Brasil, cuatro nombres se presentan de immediato cronológicamente al recuerdo del investigador: Staden, Thevet, Lery, D'Evreux. Entre los cuatro puede inclinarse la simpatía por la verdad que se desprende del relato de Staden, relator modesto y generalmente honesto que no se presta a divagaciones retóricas, o, por el contrario, leer placenteramente las fantasias de Thevet, o aun, inclinarse por la prosa de Lery o D'Evreux, que tanto se asemejan. Pero, no es menos cierto, que los cuatro significan, en su conjunto, cuanto de mas significativo tiene la crónica de viajes del Brasil.

El libro de Staden, el primero, como queda dicho, desde el punto de vista cronológico, publicado por vez primera en Marburgo (Alemania), en 1557, es actualmente de fácil consulta gracias a la reedición francesca de Ternaux.[5] En

---

cortar la madera, sea para construir sus casas, sea para cavar sus canoas. Es con piedras cortantes, que encuentran en los cursos de agua, que hacen todos sus trabajos de maderaje'' (*Ibidem*). Vasco ''pidió prestadas al cacique [Chiapes] nueve de sus barcas cavadas en un solo tronco de árbol, que los indígenas llaman culches y con 24 de los suyos, conducido por Chialpes, atravesó un gran rio que los condujo sobre el territorio de otro cacique llamada Coquera'' (p. 230). Dos páginas mas tarde nos cuenta la rotura de dichas barcas ''bien que cavadas en un solo tronco de árbol'' (p. 232). Por último, al finalizar la década, encontramos inserta en el relato de la expedición de D. Pedro Arias, la siguiente frase: ''El cacique, a fin de que los Españoles voviesen mas facilmente al Continente, les prestó las culches de sus pescadores, es decir las barcas cavadas en un solo tronco de árbol y fabricadas a la moda del pais, y les acompañó hasta la orilla'' (p. 331). Todo lo cual no nos impide hallar en las páginas iniciales de la cuarta Decada, esta declaración que encuentro de una inocencia admirable. ''Hemos dicho, en otra parte, que las canoas son barcas cavadas en un solo tronco de árbol'' (p. 360). *Tableau*! El lector ha de quedar grato, sin duda, de que interrumpa en este punto esta enfadosa demostracion escolar, sin llevarla hasta el final de la octava y reiterativa Década.

[5] El relato de Hans Staden, forma parte, como tercer tomo, de la colección titulada *Voyages, Relations et Mémoires Originaux pour servir à l'Histoire de la Découverte de l'Amérique*, publiés pour la première fois en français, par Henri Ternaux, Paris, MDCCCXXXVII Lleva por titulo, en esta moderna edición el siguiente: *Histoire d'un Pays situé dans le Nouveau Monde, nommé Amérique*, par Hans Staden de Homberg, en Hesse, Marbourg, 1557. Pero este titulo, ya largo para nuestra moderna preocupación por lo conciso, es una abreviación del larguísimo titulo de la edición ''princeps,'' el cual, traducido al español, es como sigue: ''Verdadera historia y descripción de un pais habitado por hombres salvajes, desnudos, feroces y antropófagos, situado en el Nuevo Mundo, llamado América, desconocido en el pais de Hesse, antes y después del nacimiento de Jesucristo, hasta el año pasado. Hans Staden de Homberg, de Hesse, lo ha conocido por su propia experiencia y lo hace conocer actualmente por medio de la imprenta.'' Esta primera impresión salió a luz en la erudita Marburgo, en casa de Andrés Kolben, bajo la enseña de la flor de trébol, en el año de gracia de 1557.

él se lee la siguiente descripción de la tecnica de fabricación de las canoas monoxilas:—

Chapitre XXIV

de leur manière de naviguer

> ''Il y a dans ce pays un espèce d'arbre que l'on nomme *yga–ywero;* ils en détachent l'écorce depuis le haut jusqu'en bas, et font, autour de l'arbre, une espèce d'échafaudage pour l'enlever d'un seul morceau.
>
> Quand ils ont arraché cette ècorce, ils la portent au bout de la mer, lo chauffent fortement, replient les deux bouts, après avoir eu soin d'y placer des traverses en bois et en font ainsi des canots, qui peuvent porter jusqu'à trente personnes. Cette écorce est épaissie d'un pouce, et les canots ont environ quatre pieds de large sur quarante de long: il y en a de plus petits et de plus grands. Ils vont fort vite, et les sauvages font souvent des très-longs voyages dans ces embarcations. Quand la mer devient mauvaise, ils les tirent à terre, et se reembarquent, dès que la tempête est apaisée. Ils ne s'avancent pas à plus de deux milles en mer; mais ils vont quelquefois très-loin le long des côtes.''[6]

Pocas páginas antes, recoge Staden una curiosa tradición, que alguna conexión guarda con el empleo de las supradichas canoas. Tiene ella que ver, también, con el numeroso ciclo de leyendas diluvianas que los conquistadores hallaron en tierras de América y que, junto con otras del mismo jaez, dieron lugar á la socorrida creencia en ambulaciones de los apostoles, o de algunos de sus discipulos, por el Nuevo Mundo. Dice así el párrafo en cuestión:—

> ''Ellos [los indigenas] dicen que en otros tiempos hubo una gran inundación; que todos sus antepasados se ahogaron, excepto algunos que alcanzaron á escaparse en sus canoas, o subiendo a grandes árboles. Yo creo que ellos quieren hablar del diluvio.''[7]

En cuanto a Thevet,[8] retoma al tema dejado por Staden y, complicándolo con su natural facundia, nos da el siguiente relato, al cual, para gustarlo mejor hemos de dejarle con su ortografía original:—

> ''Les vaisseaux, dont ils usent sus l'eau, sont petites Almadies, ou barquettes composées d'ecorces d'arbres sans clou ne cheuille longues de cinq ou six brasées, et de trois pieds de largeur. Et deuez sçaçoir, qu'ils ne les demandent plus massiues, estimans que autrement ne les pourroyent faire voguer à leur plaisir, pour fuyr, ou pour suivre leur ennemy. Ils tiennent une folle superstition à depouiller ces arbres de leur ecorce. La iour qu'ils les depouillent (ce qui ce fait depuis la racine iusques au couppeau) ils ne buront, ne mangeront, craignants (ainsi qu'ils disent) que autrement il ne leur aduient quelque infortune sus l'eau. Les vaisseaux ainsi faits ils en mettront cent ou six vingts, plus ou moins, et en chacun quarante or cinquante personnes, tant hommes que femmes. Les femmes seruent de'espuiser e ietter hors auec quelque petit vaisseau d'aucun fruit caué, l'eau qui entre en leur petites nasselles. Les hommes sont asseurez dedans auec leurs armes, nageans pres de la rive: et s'il se trouve quelque village ils mettront pié à terre, et le saccageront par feu et sang s'ils sont les plus forts.''[9]

---

[6] *Ibidem,* (Edición Ternaux), pp. 289–290.

[7] *Ibidem,* p. 286.

[8] Thevet, André, *Les Singularitéz de la France Antarctique.* Nouvelle édition avec notes et commentaires par Paul Gaffarel, professeur à la Faculté des Lettres de Dijon, Paris, Maisonneuve et Cie., libraires-éditeurs, 1878. Interesa especialmente el Chap. XXXIX: ''La manière de leurs combats, tant sur l'eau, que sur terre,'' pp. 191–196.

[9] *Ibidem,* p. 194.

Que verdad puede atribuirse a esa ‘‘folle superstition’’, de que nos habla Thevet? Dificil es saberlo. Pero algunas dudas pueden asaltar al lector que recuerde la opinión de Jean de Lery—‘‘Le Montaigne des vieux voyageurs’’, como le llama Auguste de Saint-Hilaire.[10] Lery compara la obra de Staden con la de Thevet y dictamina sin ambajes: ‘‘Thevet a été superlativement menteur’’.[11] Y Gaffarel, que no quiere poner toda la culpa en la cuenta de su prologado, nos dice que ‘‘se conocía tanto su credulidad que se le explotaba’’.[12] Crédulo o inventor, el testimonio de Thevet debe ser siempre sospechoso cuando no está ratificado por algun otro testimonio de autor mas avisado o menos inventivo.

El propio Lery, retoma el tema, pero sin mencionar para nada las preocupaciones indígenas indicadas por Thevet. De la misma manera que lo haré con otros autores, prefiero la transcripción a una glosa que haría perder el sabor del texto original. Lery cuenta que:—

> ‘‘un dimanche matin, en nous promenants fur une plataforme de notre forte, nous vifimes renverser en mer une barque d'efcorce (faite de la façon que ie les descriray ailleurs) dans laquelle il y avoit plus de trente perfonnes fauvages, grandes & petits qui nous venoyent voir. . . .’’

Como los franceses se apresuran a querer salvarlos, ellos les declaran que no necesitan auxilio siendo grandes nadadores, pues

> ‘‘pluftoft fans prendre pied, ni aborder terre, demeurerions-nous huict iours deffus de la façon que vous nous y voyez.’’[13]

Esto prueba acabadamente que también Lery suele tener debilidades por poner en superlativo lo que se refiere a las habilidades de los Tupinambas. Pero, de este trozo, lo interesante es que nos ha prometido hablarnos de las canoas indígenas, cosa que hace á poco andar, en la forma siguiente, al relatar la manera de combatir de aquellos indígenas:—

> ‘‘Que s'ils fe mettent par eau (ce qu'ils font fouvent) costoyans toujours la terre, et ne fe iettans queres avant en mer, ils fe rengent dans leurs barques qu'ils appellent *Igat,* lefquelles faites chacune d'une feule eforce d'arbre, qu'ils pellent expreffement du haut en bas pour ceft effect, font neantmoins fi grandes que quarante o cinquante perfonnes peuvent tenir dans une d'icelles. Ainfi vogons tout debout à leur mode, avec un aviron plat par les deux bouts, lequel ils tiennent par le milieu, ces barques (plates qu'elles font) n'enfonçans pas d'ans l'eau plus avant que feroit un ais, font fort aifees à conduire & à manier. Vray est qu'elles ne fçauroyent endurer la mer un peu haute et efmeüe, moins la tourmente: mais quand en temps de calme, nos

---

[10] Citado por Ferdinand Denis, en el prólogo al *Voyage dans le Nord du Bresil* de D'Evreux, a que mas adelante he de hacer referencia, p. XXII, y reproducido por Gaffarel en su prefacio a la *Histoire d'un Voyage faict en la Terre du Bresil* de Jean de Lery, del cual también he de ocuparme mas adelante, p. XVIII, *in fine.*

[11] Staden, *loc. cit.* (édicion Ternaux), p. 7.

[12] Thevet, *loc. cit.,* Gaffarel, p. XX.

[13] de Lery, Jean, *Histoire d'un Voyage faict en la Terre du Bresil,* nouvelle édition avec une Introduction et des Notes par Paul Gaffarel, Professeur à la Faculté des Lettres de Dijon, tome second. (Viñeta de Lemerre, con la inscripción Fac et Spera), Paris, Alphonse Lemerre, editeur, MDCCCLXXX, p. 36.

> sauvages vont en guerre, vous en verrez quelquefois plus de foixante toutes d'une flotte, lefquelles fe fuyvans pres à pres vont fi vifte qu'on les a incontinent perdues de veüe. . . .''[14]

Pero, sin duda, es D'Evreux, el cuarto de los grandes cronistas de los hechos de ese Brasil primitivo, quien nos ha de dar una descripción mas acabada de la técnica de fabricación de las canoas monoxilas, en su obra famosa, *Voyage dans le Nord du Bresil,*[15] en la que se aunan de manera tan extraña, para el lector moderno, las enseñanzas de la fé cristiana con el relato de las incidencias del viaje. Puesta D'Evreux a la tarea, nos hace el relato siguiente (folio 21):—

> ''Secondement les homes s'employet à faire des canots, ou a refaire ceux qui estoient ja faicts, propres à telles affaires; Car il faut qu'ils soient longs & larges pour y contenir plusieurs personnes, & porter aussi leurs armes & leurs prouisions, & neatmoins ce n'est qu'vn arbre. Lequel apres qu'ils l'ont couppé par le pied & bien esbranché, n'y laissant que le seul corps de l'arbre bien droit de bout à l'autre, ils fendent & leuent l'escorce auec quelque peu de la chair de l'arbre, enuiron le largeur et profondeur de demy-pied: ils mettend le feu das cette fente, avec des copeaux bien secs, qui bruslent à loisir le dedans de l'arbre, & a mesure que le fue brusle, ils grattend le bruslé auec une tille d'acier, et poursuiuent ceste façon de faire i'usqu'à tant que tout l'arbre soit creusé en dedas, ne laissant d'entier que deux doigts d'apoisseur, puis auec leviers lui donet la forme & largeurs, & ces canots de guerre sont quelquefois capables de porter deux ou trois cents persones auec leurs prouisions. Ils voguent à la rame par des jeunes homes forts & robustes, choisis pour cela, tenas chacun son aviron de 3 pieds de long, poussans l'eau en pique et non en trauers.''[16]

Y M. Ferdinand Denis comenta lo antes dicho, dando entera fé a la palabra del narrador, que hace subir a doscientos o trescientos los tripulantes de estas embarcaciones de guerra:—

> ''Gabriel Soares[17] est tout-a-fait d'acord ici avec notre missionaires. Les grands canots, dont il est question s'appelaient *Maracatim* parce qu'ils portaient un Maraca protêcteur à leur proue. Le mot *iga* désignait un canot simple. *Igaripé* un canot d'ecorce, etc., etc.[17a]

---

[14] *Ibidem,* tome II, p. 36. Para mayores datos sobre los indios Tupinambás, puede consultarse la obra titulada Memoria sobre as nações, gentias que presentêmente habitam o continente do Maranham escripta no anno de 1819 pelo major graduado Francisco de Paula Ribeiro, *Revista Trimensal,* tomo 3, p. 184. Esta publicación es indicada por Ferdinand Denis, en sus notas a la obra de D'Evreux, p. 389.

[15] *Voyage dans le Nord du Bresil faict durant les Annés 1613 et 1614* per le Père Yves D'Evreux. Publié d'après l'exemplaire unique conservé a la Bibliothèque Imperiale de Paris. Avec une introduction et des notes par M. Ferdinand Denis conservateur à la bibliothèque Sainte Geneviève, Leipzig et Paris, Librairie A. Franck, Albert L. Herold, 1864. Esta referencia al ejemplar unico tiene su explicación: la edición ''princeps'' fué destruida, por motivos politicos, antes de salir a la venta. Solo el ejemplar del almirante François de Razilly, algo incompleto, fué conservado en la biblioteca de Luis XIII. Es interesante completar el conocimiento de la personalidad de Ives de d'Evreux, y de su obra, con la lectura de otra obra suya, que circula bajo el titulo siguiente: *Narrative epistolar de uma Viagem e missão jesuitica pela Bahia, Porto Seguro, Pernambuco, Espirito Sancto, Rio de Janeiro,* etc., Escripta em duas Cartas ao Padre Provincial em Portugal, (Lisboa, 1847, in 8°). Citada por Ferdinand Denis, en la introducción al *Voyage dans le Nord du Bresil,* p. XXXI, nota 1.

[16] *Ibidem,* p. 22 y 23.

[17] Esta indicacion de Gabriel Soares como fuente de información, debe entenderse con referencia a su *Tratado descriptivo do Brasil em 1587,* publicado (in 8°) en Rio de Janeiro, en 1851, y citado por Denis en su introducción al *Voyage* de D'Evreux, p. XXXI, nota 2.

[17a] Ver sobre esto de Montoya, Ruiz, *Tesoro de la lengua guaraní,* p. 173.

Recordando que Juan de Lery ha realizado su viaje a Rio de Janeiro en 1556, el cual no se publicó hasta 1571, Denis se pregunta si esta obra no habrá influenciado a D'Evreux. Termina respondiéndo que, si es verdad que el estilo de ambos tiene muchos puntos de contacto y si las ediciones de Lery se reprodujeron al extremo de que, en el termino de cuaranta años se dieron a luz cinco, nada nos permite, sin embargo, llegar a una conclusión afirmativa.

A estos relatos que se refieren todos al Brasil de la época de la conquista, quiero agregar, ahora, el testimonio de un viajero moderno, que como aquellos abnegados misioneros, *a visto* lo que narra, pagando sus informaciones al duro precio de privaciones y peligros. Este testimonio es el del explorador Curt Nimuendajú,[18] quien se produce en la siguiente forma:—

> [Capitulo] XXXVIII. Embarcações.
>
> ''As canôas dos Parintintin são formadas por un pedaço de casca de Jutahy (*Hymenea* sp.) de 5 a 7 m. de comprimento por um e meio de largura, cujas bordas são levantadas e convenientemente firmadas com varas compridas pelos lados, travessas mettidas por dentro e amarrações de cipó nas pontas e de lado a lado. As travessas servem de assento e uma especie de esteira de varas cobre o fundo la embarcação em quasi todo o seu comprimento. Se a casca racha, a fenda é cuidadosamente concertada por meio de uma costura com cordas de embira: as beiras da fenda são sustentadas em posição conveniente por talas sobrepostas de cada lado: os furos da costure calafetados com rolhas de embira e todo o concerto é coberto com uma camada de tabatinga impermeavel.
>
> O unico remo feito pelos Parintintin que eu vi e adqueri tem uma folha quasi circular, e uma cabeça identica à dos remos dos Neo-Brazileiros do Madeira. Esta forma quer me parecer que seja emprestada, pois estes indios posseum grande numero de remos velhos, roubados visivelmente aos Madeirenses.
>
> A pezar do seu feitio grosseiro, as canôas de casca podem desenvolver uma velocidade relativemente grande. Os indios remam com golpes curtos e rapidos e, quando mudam o remo de um lado para o outro, levantam—no com certa elegancia por cima da cabeça. Quando não as occupam mais, afundam as suas canôas, para não serem roubadas pelos outros, é parecem existir embarcações assim escondidas em todo o territorio por elles percorrido.''[19]

Nimuendajú agrega, con referencia a la extensión de los ''raids'' producidos a bordo de tan frágiles embarcaciones, las palabras siguientes:—

> ''Em tempos passados os Parentintin se atreviam mesmo a transpôr em suas canôas de casca o Rio Machado e até o Madeira, para atacar a missão de São Francisco e os moradores de Pasto Grande.''

Los modernos Parentintin no pueden permitirse ya realizar excursiones de esta indole, pero esta limitación de sus actuales viajes fluviales no está condicionada, como se vé, por una carencia de elementos eficientes para realizarlos, sinó por razones que nada tienen que ver con la bondad de sus embarcaciones.

III

Por lo que se refiere a la fabricación propiamente dicha de estas canoas en territorio paraguayo o argentino, muy pocos textos podrán ofrecerse como referencia y ellos no modificarán, sin duda, las lineas generales de lo expuesto.

---

[18] Nimuendaju, Curt, Os Indios Parintin do Rio Madeira, en *Journal des Américanistes de Paris*, nouvelle série, tome XVI, Paris, 1924, pp. 201–278.

[19] *Ibidem*, p. 256.

La región de los grandes rios, Paraná, Uruguay, Paraguay, con sus multiples afluentes, era habitada por tribus ictiófagas, que encontraban en la canoa no solo el vehiculo de transporte, sinó el elemento que contribuía a asekurar la alimentación y a hacer la guerra.

Basta recorrer, para probarlo, las páginas de Ruy Diaz de Guzman, autor de *La Argentina,* e introductor, en la literatura histórica, de la leyenda de amor, de odio y de sangre de Siripo y Lucia. Ruy Diaz de Guzman es, pese a ello, lo contrario de un escritor y, aun vencida la valla de su fantasiosa ortografía, nos detiene en su lectura la falta de animación de su relato. Solo el grito del hambre de los conquistadores retumba en esas páginas áridas e inseguras. Con todo:—

> "A ese borrajeado y mal hilvanado cuaderno,[20] debería, gracias a su condición de primer ocupante, una suerte de immortalidad doméstica que muchas obras maestras, en otras partes, no alcanzaron."[21]

Así, cuenta Ruy Diaz de Guzmán que Sebastian Gaboto entró por el Paraguay:—

> "Yansi sefue por el mas de quarenta leguas hasta el paraje q. llaman la Angostura, donde vndia le salieron al en cuentro mas de trecients Canoas de yndios q. llaman hagazes que entonces señoreauan ttodo aquel rrio. . ."[22]

Estos indios canoeros y belicosos dieron mucho que hacer a los conquistadores. Otro pasaje de *La Argentina* nos narra un nuevo combate ocurrido contra los agaces, en el mismo lugar que el anterior:—

> "Y conesta determinaçion yendo nauegando en vn Paraje del rrio que llaman la Angostura les a cometieron gran multitud de canoas de aquellos Indios llamados hagases, conlos quales [pelearon] muy reñdiamente, matando muchos dellos y demanera q. los hizieron rretirar y saltar ttodos los mas entierra y dejar las Canoas en q. se tomo alguna Comida y mucha Carne de Monte y pescado."[23]

Mas adelante, al relatar, en el Capítulo XV, "Delo que sucedio a Domingo de Yrala el rio arriua y lamuerte de Juan de Ayolas", cuenta que "alli le vinieron quatro Canoas de yndios q. llaman guairapos"[24] y, a la página siguiente, nos relata una estratagema y plan de ataque de los indios payaguas:—

> "Otro dia a las dos Vinieron dos Canoas de Yndios Payaguas de parte de su Cassique Con mucho pescado y Carne; y estando hablando con ellos Vieron venir de la otra Vanda cuarenta Canoas con mas de trescientos yndios y ttomando ttierra enlamisma hisla al a parte de auajo."

---

[20] Existen varios textos, excesivamente dispares entre si, con abundantes interpolaciones del autor e del copista, en tal caso demasiado oficioso. Hemos de seguir, para las citas el siguiente: *Anales de la Biblioteca*, Buenos Aires, tomo IX, edición critica de La Argentina de Ruy Diaz de Guzman. Esta edición, debida al diligente cuidado de Don Paul Groussac, anota las variantes de interés con respecto a los differentes textos, tarea necesaria ya que no se conoce el original.

[21] *Ibidem*, prólogo de D. Paul Groussac.

[22] *Ibidem*, p. 34.

[23] *Ibidem*, p. 63.

[24] *Ibidem*, p. 73.

en tanto que otras veinte canoas, por el rio, atacan a los barcos. Pero no eran siempre cantidad pequeña la de canoas indígenas que avistaban. Ocurre, en veces, que su número se eleva a varios centenares. Es típico, a este respecto, el siguiente pasaje: Don Francisco de Mendoza, viajando por el rio Carcaraña llega a un lugar pintoresco sombreado de sauces. Ruy Diaz prosigue:—

> ''Aqui sentaron su Real, y al otro dia alas neue uinieron arreconocer mas de trecientas Canoas deyndios; y llegadas frontero de los nuestros apartado de tierra Como vntiro deflecha sobre vna playa q. alli des cubria, Comenzaron aleuantar las palas en alto que es senal de amistad y ttregua.[25] Poco mas adelante, tenemos la noticia de que Yrala utilizo mas de cuatrocientas canoas indígenas en una incursión que realizó para apoyar a algunos caciques de la Guayra (Paraguay) contra los tupis de la costa Brasil.[26]

Y no es solo Ruy Diaz de Guzman, que se para a cada paso a contar a las canoas indígenas y a indicar como eran utilizadas por indigenas o españoles. Ulrico Schmidel, el soldado alemán que llegó al Rio de la Plata con la expedición de Don Pedro de Mendoza—es decir en la misma época que acabamos de mencionar—también les dedica preferente atención.[27] Schmidel tiene el inconveniente de escribir todos los nombres de lugares, personas y cosas de acuerdo con lo que sonaba a su oido teuton. Así al hablar de las canoas les llama ''conanen'', ''cannanen'', ''kannanen'', ''canaon'', y aun, ''Klannean'', y canaen.[28] Menciona en su obra los pueblos que sucesivamente van conociendo—Mocoretás, mepenes, agaces, carios, xarayes, yacarés, tupis—todos ellos canoeros. Pero solo se detiene, suscintamente, en la consideración de las canoas de los mepenes, acerca de los cuales dice:—

> ''Tienen mas canoas o esquifes que cualquiera otra nación de las que alli habiamos visto; en cada una de estas canoas o esquifes cabian hasta 20 personas. . . . Esta gente nos salió al encuentro por agua en son de guerra, con 500 canoas o esquifes, pero sin sacarnos mayor ventaja . . . y como hallamos 250 canoas o esquifes las quemamos y destruimos . . . por que la guerra que ellos hacen es solo por agua.''[29]

IV

Séame permitido, antes de terminar esta breve aportación al estudio de las canoas monoxilas, efectuar la presentación de una pieza arqueológica del mas alto interés en esta materia, que puedo comunicar a este Congreso por concesión gentil del señor director del Museo de Historia Natural de La Plata (República Argentina), Doctor Luis Maria Torres. Se trata de una canoa monoxila, de madera de timbó, que fué hallada por el estudiante, hoy adscripto al personal de ese Museo, señor Gaggero, en uno de los viajes de exploración que periódicamente organiza esa Institución. Esta pieza no ha sido descripta ni publicada hasta el presente, en ninguna publicación cientifica argentina o extrangera. Se trata, ademas, de las mas grande canoa monoxila conocida en el pais y su estado de conservación es aun bastante bueno.

---

[25] *Ibidem,* p. 118.

[26] *Ibidem,* p. 147.

[27] Schmidel, Ulrich, *Viaje al Rio de la Plata* (1534–1554). Notas bibliográficas y biográficas por Bartolomé Mitre. Prólogo, traducción y anotaciones por Samuel A. Lafone Quevedo, Buenos Aires, Edición de la Junta de Historia y Numismática, Buenos Aires, Cabaut y Cia, Editores, Libreria del Colegio, 1903.

[28] Respectivamente, pp. 206, 280, 210, 246, 207, y 165.

[29] *Ibidem,* pp. 167–168.

Segun las informaciones que poseo—y que me han sido ratificadas por las noticias que de oidas poseia el Doctor S. K. Lothrop, distinguido arqueólogo norteamericano que se encontraba por ese entonces en la Argentina, enviado por el Museum of the American Indian, Heye Foundation, y que ha tenido la gentileza de reponder a mis preguntas—la canoa fué hallada en un zanjón lleno de agua antiguo lecho del arroyo La Glorieta, en un lugar llamada Horqueta, entre Anita y Glorieta Chica, zanjón que desemboca en el Canal Arias, tributario, a su vez, del Paraná de las Palmas (Sección 1 del Delta del Paraná).

Para M. Tabariès de Grandsaignes—a quien citamos al comienzo de esta comunicación—"la primera barca", es decir, la canoa mas antigua, fué sin la de forma mas simple (lo que economizaba el esfuerzo) y conservaba, por lo tanto, la forma del tronco apenas desbastado.[30] Sus extremidades eran cortadas verticalmente. La forma exterior quedaba, pues, perfectamente respetada. El tronco subsistia en la embarcación. De este tipo, tan rigurosamente simple, es, también la canoa que describo, tal cual puede verse en la fotografía que muestra la Fig. 1. Desgraciadamente, la maquina fotográfica con que fué obtenida, no estaba especialmente preparada para lograr fotografías de objetos de tanta extensión y aparece, por ello, ligeramente deformada, es decir, excesivamente ancha su popa (la parte mas cercana al objetivo) y demasiado fina su proa. Con todo puede dar una idea de su gran tamaño y de su estado de conservación. Este era, empero, mucho mejor en los primeros dias de su extracción del agua y del fondo de barro sobre el que reposaba. Luego al resecarse la madera, y a pesar de todos los cuidados puestos para lograr su transporte intacta al lugar que actualmente ocupa en el Museo, sus bordes se agrietaron y resquebrajaron en muchos lugares.

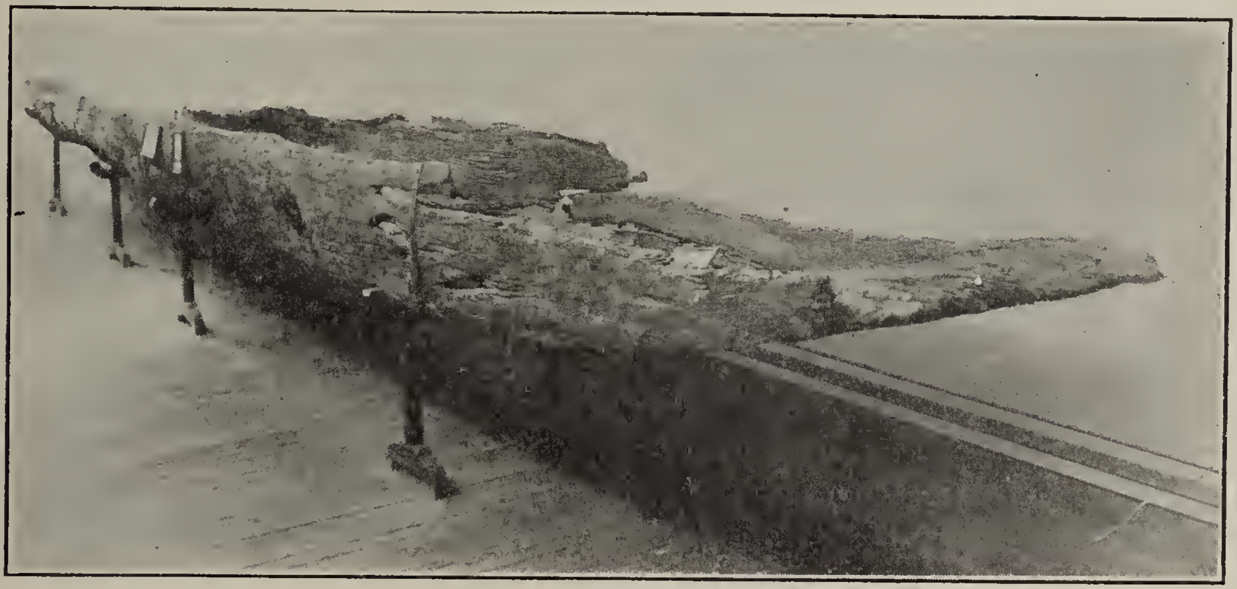


FIG. 1

---

[30] de Grandsaignes, Tabariès, *ibid.*, p. 355.

Según Tabariès de Grandsaignes las canoas monoxilas descubiertas en Europa, hasta la época de su publicación (1906) eran de maderas solidas y compactas, roble, olmo, pino.[31] Esta es de madera de timbó, arbol corpulento y de madera que no se agrieta ni astilla, y que se produce habitualmente en el Paraguay y provincias del N. E. Argentino.

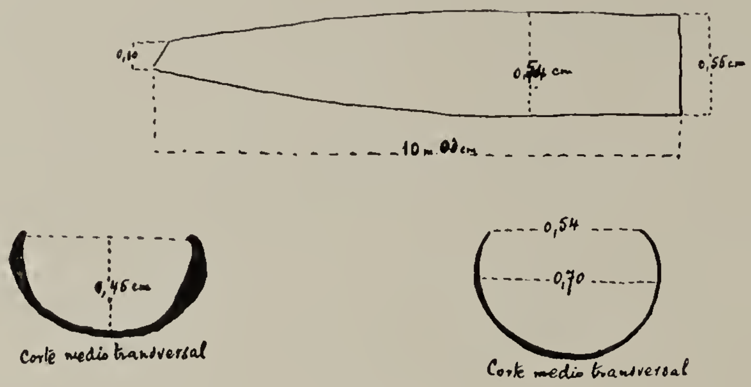


Fig. 2

Sus dimensiones aparecen graficamente indicadas en las figuras que se insertan a continuación y el espesor de la madera, en la parte mas ancha que se puede medir (fondo y costados de la embarcación) es de 6½ a 8 cm. Es dificil saber, exactamente, a que pueblo indígena haya pertenecido, pero, por el lugar en que fué hallada, parece presumible que pueda inferirse que perteneció a los Guaranies, o a los Chanábeguas, pueblos, ambos, que habitaban las islas del delta del Paraná.

Universidad Nacional de la Plata,
República Argentina.

---

[31] *Ibid.*, ver p. 350.

UM ENORME MACHADO CRESCENTE DOS INDIOS DO BRASIL

Por Antonio Carlos Simoens da Silva

ESSA rara peça lithica, a maior no genero até hoje conhecida, não só no Brasil, mas tambem alhures, foi encontrada em franco uso dos Indios Gaviões, no Estado Pará, ás margens do caudaloso Rio Tocantins, ha mais de um quarto de seculo e offertada, em Palacio, ao Governador, General Lauro Sodré, o qual, por sua vez, ha cerca de um decennio, offereceu-a ao Museu Simoens da Silva, do Rio de Janeiro, de fundação e propriedade do autor.

O Rio Tocantins

O rio Tocanstins, um dos principaes formadores da grande e intrincada Bacia Amazonica, com 2,640 kilometros de extensão; vinte e seis grandes affluentes, pela margem diréita e vinte e cinco, pela esquerda; de riquissimo leito em pedras preciosas e em diversidade de metaes, d'elles sobresahindo o ouro, e, finalmente, cheio de lendas e supertições para os seus navegantes e moradores ribeirinhos, cada qual mais phantastica e interessante, nasce no Estado de Goyaz, percorrendo-o em grande extensão e, em seguida, atravessando o do Pará, desemboca na Bahia de Marajó, con cerca de 10 milhas de largura.

O seu curso, dispondo de varias dezenas de importantes cachoeiras e corredeiras, com colossal força hydraulica, infelizmente ainda completamente desperdiçada, possue, tambem, como que amparando e equilibrando a violencia da corrente das suas aguas, inumeras ilhas, das quaes são dignas de nota para o assumpto em questão, as denominadas: Arapapá, Pacas, Arcos, e, Tauajury, apenas coroadas de rachitica vegetação, porém de formação vulcanica, onde a celebre rocha eruptiva ''Diabase'' é bastante abundante.

As gigantescas florestas amazonicas, das suas margens no Pará ás do rio Gurupy, entre este Estado e o do Maranhão, são, habitadas por varias tribus indigenas, de ordinario, de vida muitissimo atrazada e de habitos e costumes ainda puramente selvagens.

Os Indios Gaviões

D'essas tribus, geralmente Tapuyas, sobresahem, entre outras, as dos: Timbyras, Gamellas, Carahós e Gaviões; estes ultimos Cricatagés, como bem os qualifica o professor Dr. Nelson de Cenna, em sua instructiva obra: *Os Indios do Brasil,* dando-os como aparentados ainda com os: Caraetês, Caragês e Caractagês.

A grande nação Gê, a que pertencem os referidos Indios Gaviões em grande parte, habitou a extensa região limitrophe do Maranhão e Pará, segundo se infére dos dizeres da velha *Chorographia Brasilica,* do Padre Ayres do Casal.

Tambem Karl von Martius classificou as tribus supra citadas, que formam o mesmo grupo Tapuya, de Gês, assim como Paul Ehrenreich, que reuniu ás mesmas as tribus de Botucudos ou Bugres, de Minas Geraes, Espirito Santo, Paraná e Santa Catharina considerando todas, Gês.

A tribu dos Gaviões é, de facto, bastante desconhecida ainda, por viver sempre arredia, como a respeito, informa Henri Coudreau que, em sua obra: *Voyage Au Tocantins-Araguaya,* diz ter visto de longe, em principios de 1897, varios Indios da mesma, á margem do Tocantins, entre os Travessões: ''Mãe Maria'' e ''Bacabal''.

O estado selvagem em que permaneceu os membros componentes d'essa tribu do norte do Brasil, impede serem os mesmos estudados, como não se dá com varias outras, que, pouco a pouco, vão se agremiando com os meios civilisados.

Os mais notaveis escriptores, que se têm occupado com os Indios do Brasil, deixam sempre de referir-se aos Gaviões, que, no emtanto existem na região acima citada, luctando continuamente com as tribus que lhes são visinhas e atacando, não raras vezes, os ranchos dos civilizados das povoações de que se approximam.

No dizer do professor Dr. Nelson de Senna, o nome Gaviões, dádo a esse Indios, foi motivado pela ferocidade com que praticam os seus actos, muitas vezes de justa represalia, á infundada perseguição dos pretensos civilizados, sobre os quaes, se atiram, com tamanha violencia, bem retratando os habitos carniceiros dos seus antecessores Gês que sempre habitaram a supra citada região do Tocantins.

Os ataques por elles dádos ás tabas inimigas ou ás habitações dos agricultores ou operarios, são tão violentos, que parecem, ser de aves de rapinas, como são os milhafres, cuja indole é positivamente cruel e sanguinaria.

Segundo as informações obtidas na Estado do Pará, em 1918, pelo autor, encontram-se esses Indios no mais atrazado estado de civilização, ou melhor, desconhecendo-a por completo, alimentando-se de: caça, pesca e fructas e só cogitando de guerras e de ataques para pilhagem, como o seu nome bem o indica.

Uma verdadeira anomalia se verifica com os mesmos Indios: sendo ignorantes como todo Gê, trabalham, no entretanto, com rara perfeição em: fibra e palha como bem deixa vêr o cabo da peça, que serve de motivo á presente memoria, por sua ornamentação e sua amarração.

O MACHADO

Esse bello e raro artefacto, da época neolithica, como demonstra a estampa junta, com a forma crescente ou semi-lunar, todo de Diabase, uma das rochas eruptivas de major predilecção entre os primitivos habitantes do sul d'este continente, para instrumentos d'essa natureza, foi provavelmente executado de um dos fragmentos das respectivas jazidas de uma das supra citadas ilhas, de fomação vulcanica, existentes no grande estuario do rio Tocantins, como já ficou dito.

Que é uma peça prehistorica essa, não resta a menor duvida, pois que os Indios, que actualmente habitam o Brasil e os demais paizes sul-americanos não fazem obras primorosas, como a ora descripta, de ordinario, encontradas em terrenos de alluvião, como fôra a celebre Mó, tambem de pedra polida, a maior até hoje conhecida, accusando 1, m. 39, achada no Reconcavo Bahiano e offertada ao Museu Simoens da Silva do Rio de Janeiro, pelo saudoso Ministro do Tribunal de Contas, Dr. Aurelino Leal e que serviu de motivo a uma memorias do autor ao XX Congresso Internacional de Americanistas, realisado no Brasil, em 1922, sob sua presidencia, constante dos respectivos annaes.

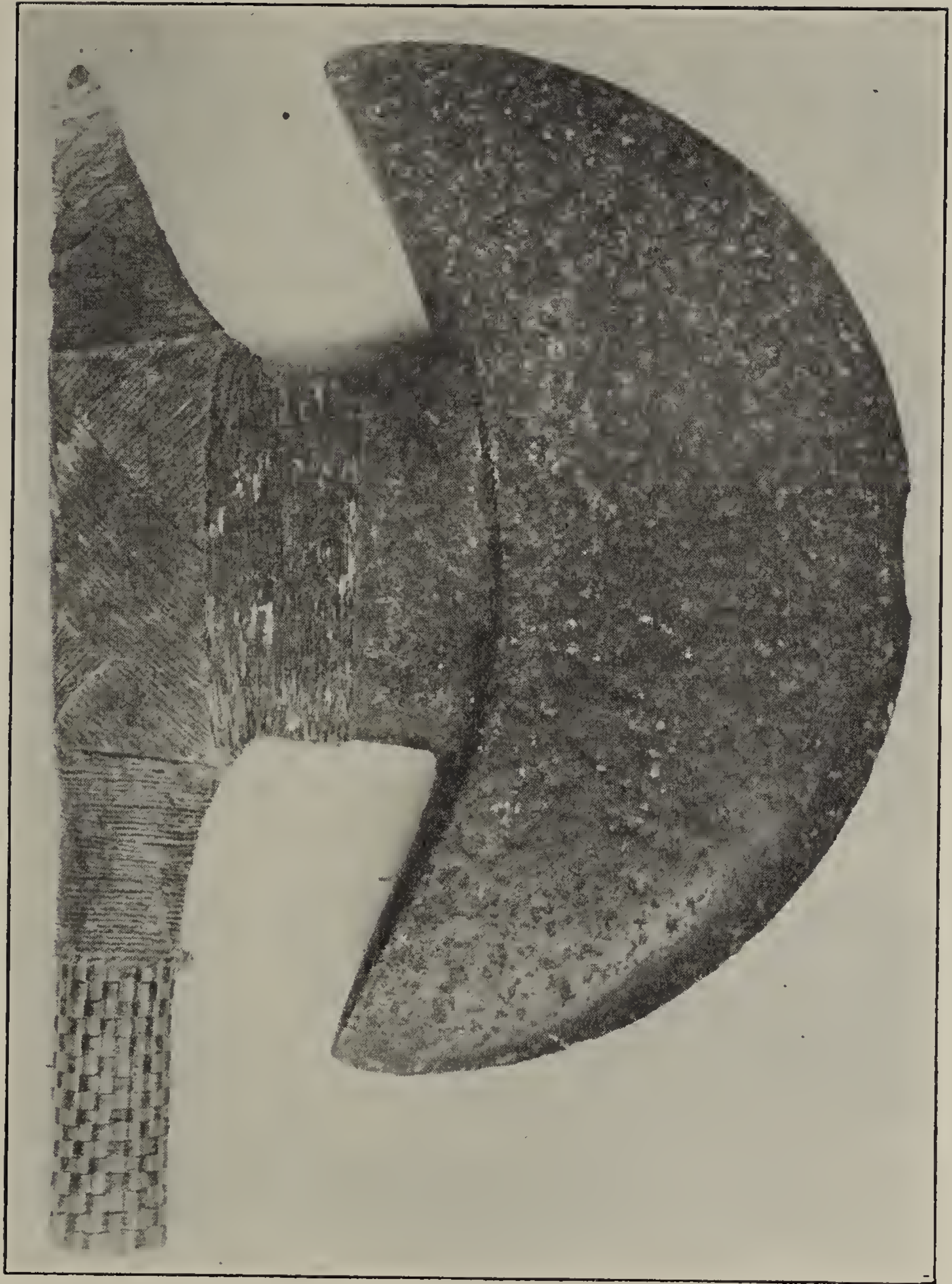


FIG. 1—MACHADA DE PEDRA, DE FÓRMA CRESCENTE. ENCONTRADO NO E DO PARÁ COM OS INDIOS GAVIOÊS, NORTE DO BRASIL. PROPRIEDADE DO MUSEU SIMOENS DA SILVA, DO RIO DE JANEIRO

Da mesma forma são os raros machados alongados de Nephrite, encontrados em terrenos de identica natureza, no districto de Baetinga, em Amargosa, no referido Estado da Bahia, que são por sua vez, de propriedade do autor e acham-se photographados e descriptos em sua memoria: *Nephrite in Brasil*, fazendo parte dos annaes do XIX Congresso Internacional de Americanistas de Washington, em 1915–1916, ao qual compareceu como Delegado Official do Brasil.

Assim, póde-se affirmar, sem receio de errar, que os Indios Gaviões, com os quaes foi o alludido machado encontrado, embóra o tivessem solidamente encabado, não foram os seus fabricantes, porque: permanecendo, na vida mais atrazada, que imaginar se possa, como todos elles se encontram, não poderiam fazer excepção dos demais, alguns até já em relativo estado de civilização e progresso, executando em rocha difficil de córte e preparo, como sóe ser a Diabase, uma peça, como essa, de esplendidas proporções geometricas e de admiravel belleza, só feitas em épocas pre-colombianas nésta parte do Universo, mais tarde, appellidada de; America do Sul.

O Machado como se acha, perfeitamente bem encabado em madeira de lei, pesa: 1.850 grammas e méde, 0,m 22; do gume ao extremo do cabo (pedra); 0,m 020, de espessura, ma parte mais reforçada; 0,m 44, na semi-circumferencia e, 0,m 245, de ponta á ponta, no crescente, com a circumstancia muito encomiastica, para quem o fabricou, de serem quasi equidistantes essas pontas, do seu cabo original, por estarem afastadas do mesmo: uma, 0,077 e outra, 0,m 080, ou seja a differença apenas de: 0,m 003, isso, núm artefacto lithico, de grandes dimensões, formato difficil de execução e, tudo feito sem o menor utensilio de bronze ou de ferro!

Em summa: E'esse machado, uma peça lithica, pesando cerca de 2 kilos e com quasi meio metro de dimensão!

ADORNO E AMARRAÇÃO DO CABO

O cabo de madeira, possivelmente de Muirapinima, propria das regiões amazonicas, completamente cylindrico, com 0,m 030, de diametro, accusa só 0,29 de extensão, por terem os seringueiros, conseguintemente, civilizados, na hypothese, mais ignorantes que os selvagens em questão, ao apprehender, dos Indios, a rara peça em apreço, commettido a censuravel insensatez de cortar a madeira em tal comprimento, talvez para facilitar-lhes o transporte da mesma, deixando-o, com tão erroneo procedimento, com as dimensões de cabo de machadinha.

Do seu extremo até o inicio da amarração, medeia um trecho de 0,m 070, que se acha todo ornamentado, envolvendo a madeira com um tecido feito com 19 palhas brancas, em sentido vertical e outras 15, de côr preta, em disposição horisontal, enxadrezando-se em puro estylo "Gê", muito naturalmente empregado pelos Indios Gaviões, descendentes directos déssa nação, em grande parte, já extincta.

Os restantes 0,m 22, acham-se envoltos em innumeros fios de fibra de Tucum, protegidos por cêra ou rezina, amarrando á si; a parte de encabação do machado; o que foi feito por meio de reforçados grupos de linhas sobrepostas umas as outras, na maioria das vezes, em sentido diagonal, formando xadrez, umas bem juntas as outras e, em verdadeiro seguimento todas ellas, não havendo entre as mesmas, a menor solução de continuidade.

Da observação na estampa contam-se-lhe 5 grupos distinctos: O primeiro, com 36 filas e o quinto, com 64, circumdando as partes do cabo, depois do adorno de palha do inicio do mesmo e no outro extremo, que termina em ponta e, lógo a seguir, estão: o segunda, com 18, volteando, em elliptica o cabo de pedra e, os terceiro e quarto, em pura diagonal, respectivamente, com 26 e 42 filas, amarrando, como o antecedente, a pedra á madeira, arrochando, uma a outra por tal fórma, de não permittir verem se-lhes emendas, nem falhas, tudo feito, com tanta arte e carinho, difficil de ser imitado, com exito, por quem quer que seja.

Toda peça, assim constituida, é de grande interesse não só archeologico, mas tambem ethnologico; quer pela raridade e perfeição de execução do machado, propriamente dito; quer, pela sua extraordinaria encabação.

RIO DE JANEIRO, BRAZIL.

THE EXPEDITION OF G. I. LANGSDORFF TO BRAZIL IN 1821–1829

By I. D. Strelnikov

At the beginning of the last century, after the circumnavigation of the globe by Krusenstern, the Russian geographical investigations attained world-wide historical importance. In the twenties of the nineteenth century three expeditions were simultaneously organized, namely: in 1920–1924 F. Lytke's expedition, undertaken for the purpose of studying and describing Nova Zembla; that of F. Wrangel, in 1820–1824, along the northern coasts of Siberia on the Arctic Ocean; and that of Bellingshausen to the South Seas in 1819–1822. G. I. Langsdorff's expedition was to have been the fourth of that period and of equal importance in point of the hugeness of the enterprise and the volume of work to be performed. But a misfortune befell it. This expedition, arranged by the Academy of Sciences of Russia, was planned on a large scale, and carried out a prodigious amount of work, but it has remained hitherto practically unknown.

The leader of the expedition, G. I. Langsdorff, became mentally deranged owing to illness contracted during the journey and his notes and the diaries went astray; part of the collected objects apparently failed to reach St. Petersburg and the expedition itself was forgotten.

Most noteworthy and important were the ethnographical collections. K. K. Hilsen, late curator of the South American section of the Museum of Anthropology and Ethnography, assumed the task of ascertaining the origin of these materials and the date of their collection. This work was subsequently handed over to H. H. Maniser, ethnographer and member of the expedition of 1914–1916.

Recently, in the archives of the Academy of Sciences, some of Langsdorff's letters and a few reports referring to his life in Brazil (1812–1820) were found, giving an account of his own studies and also of the work of the expedition (1821–1829). In the same archives were also found more than three hundred sketches and drawings made by the three painters (H. Florance, Rugendas, A. Taunay) of the expedition; many of these sketches are in color. These remarkable drawings, richly illustrating the ethnographical and the zoological conditions of Brazil at that time, remain unpublished.

The ethnographical, zoological, and botanical collections (the last of which contains over one hundred thousand specimens), that reached their destination in St. Petersburg were so rich that for quite a long time they formed the principal part of the tropical exhibits in the Museums at the Academy and in the herbarium of the Botanical Gardens.

Letters, reports, specimen labels, sketches, and drawings made it possible to trace the progress of work carried on by the expedition and to ascertain the fate of all its members.

The Academy of Russia expects to publish next year a detailed account of the expedition and of its scientific results.

LANGSDORFF'S LIFE AND EXPEDITIONS
1774–1852

G. I. Langsdorff was born in 1774 in southwestern Germany. He used to say that the natural sciences had already attracted him at an early age. The lectures of Blumenbach, renowned at that time at Göttingen, gave a definite direction to his inclinations.

In 1797, at the age of twenty-three, Langsdorff graduated in obstetrics, which branch of knowledge apparently had an ethnographical interest. In the same year he accompanied Prince X. Valdek, the generalissimo of the Portuguese army, as his private physician. After the death of the prince, in 1799, instead of returning to Germany, Langsdorff preferred to begin his career as a physician in Lisbon, under its lovely sky, surrounded by friendly and educated people. During his leisure time, when free from work, Langsdorff devoted himself to his favorite scientific studies, mainly botany, though he was also interested in zoology.

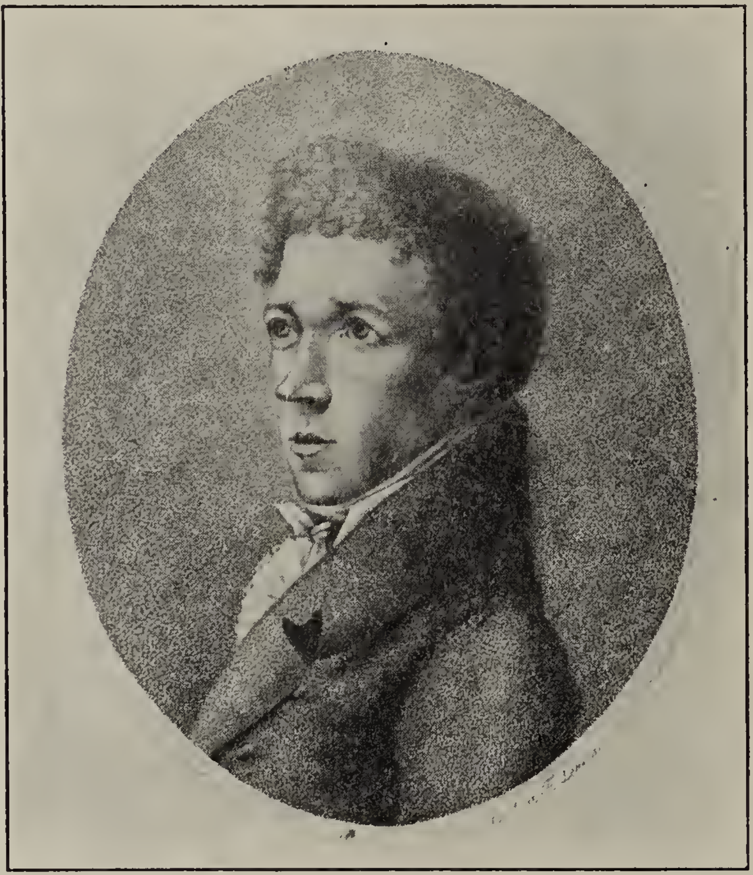


FIG. 1—G. I. LANGSDORFF

It is noteworthy that after two years' stay in Portugal, Langsdorff acquired so sound a knowledge of Portuguese that even his medical books were printed in that language. This knowledge of Portuguese was responsible for his subsequent longing for Brazil, where Portuguese is the national language.

In 1802, on his return to Germany, Langsdorff came in touch with the scientific circles of London and Paris; among his friends he mentions Hauy, Olivier, Latreille, Geoffroy, Dumeril, etc., and about the same period he was elected a corresponding member of the Russian Academy of Sciences, as doctor of medicine, from Lisbon.

Langsdorff had long dreamt of an expedition to some distant country. So when he heard of the proposed circumnavigation of the globe under Krusenstern, he considered himself eligible for a position as naturalist to the expedition. As he was a correspondent of the Academy he asked that learned body to assist him. Upon the receipt of the advice he was ready to start in a couple of hours.

The two volumes of his *Bemerkungen auf einer Reise um die Welt in den Jahren 1803 bis 1807,* that appeared in a richly illustrated edition in Germany, show the ardor and earnestness with which Langsdorff undertook his task, as well as the breadth of his scientific outlook.

During the journey Langsdorff paid particular attention to questions of general interest, namely, to the manners and customs of different nations; he also described the wealth of the countries visited and gave a general sketch of the whole expedition. Langsdorff was a happy man, for he did not know the feeling of loneliness—he was always active.

The expedition set out on August 7, 1803. After a short stay at the Canary Islands, the ships of the expedition, the *Nadejda* and the *Neva* lay off the coast of St. Catherine's Island in Brazil from March 20, 1803, to February 4, 1804. During his sojourn there, Langsdorff devoted himself to collecting butterflies and made frequent excursions into the forests. Here he admired the beauties of nature, delighted in the singing of unknown birds, and wondered at the sight of strange plants. Besides, his knowledge of Portuguese enabled him to come into contact with the population which was, in many ways, superior to that of the metropolis. Particularly his attention was drawn to the fate of the black slaves. The slave market impressed him deeply. ''I felt quite indignant,'' says he, ''at seeing those crowds of helpless and homeless creatures, stripped to the skin and exhibited for sale at the cross-ways.''

On the fourth of February the expedition left Brazil. Langsdorff speaks of that country as being the richest and most wonderful part of the globe and that the impressions of his stay there will never be forgotten.

Continuing on her course, the *Nadejda* arrived at the Marquesas Islands. Civilization had exercised but slight influence over the inhabitants of Nukahiva. Therefore, Langsdorff's detailed descriptions of those natives are of a high value.

In the middle of July, Krusenstern and Langsdorff reached Petropavlovsk, Kamchatka, after a short call in the Hawaiian Islands. The latter part of 1804, as well as 1805, 1806, and part of 1807, Langsdorff cruised around the Aleutian Islands and along the northwest coast of North America. At the end of June, 1807, he drove from Okhotsk to Yakutsk and then to Irkutsk, Kazan, and Moscow. He arrived at St. Petersburg on March 16, 1808.

It took him about three years to work over all the materials collected during the expedition. Besides the above-mentioned two-volume publication, Langsdorff began, with the assistance of Mr. Fisher, to print his major botanical work.

During 1810 to 1818, the continuation of that work appeared in the memoirs of the Academy, entitled: *"Plantes recueillies pendant le Voyage des Russes Autour du Monde."*

In 1812 Langsdorff was appointed as an extraordinary member of the Academy in zoology and botany.

Langsdorff in Brazil

1812–1820

Beginning in 1812, Langsdorff's life was wholly bound up with Brazil. In the same year, and apparently, in accordance with his own wish, Langsdorff was appointed Russian Consul General at Rio de Janeiro, but still retained his title of member of the Academy. At the end of August, 1813, Langsdorff was joined in Rio de Janeiro by the preparator, Freireis, sent to him as an assistant. The entomological collections and the accumulation of skins soon increased to such an extent that Langsdorff was enabled to send them to St. Petersburg at every opportunity.

Langsdorff's attention was drawn by the Indians of the Botocudo tribe who lived between Minas Geraes province and Rio Doce. Precisely at the same period the Botocudo tribe was studied by Prince Wied-Neuwied who says a good deal about them in the description of his journey.

In 1814 Langsdorff sent his friend, Eschwege, who investigated the state of Minas Geraes and the preparator, Freireis, to Serra do Abacte. The collections were rapidly increasing, thanks to Langsdorff, who was very anxious to complete and enlarge the collections of the Museum of the Academy. In those times materials from South America were not very often found in the museums. We may take it for granted that, thanks to Langsdorff, the South American collections in St. Petersburg at that time and later on were among the first in Europe.

Strauch, in his historical review of the Zoological Museum in 1889 remarks on the richness of its South American collections. Brandt, a member of the Academy, acknowledges that in 1865 Brazil was as well represented in the museum as was the Caucasus, the northern part of the Pacific Ocean, Europe, and northern Asia. In examining the collections of the museums, it is even now quite possible to find a considerable number of specimens from South America prepared after the old method and belonging to those that were sent by Langsdorff. Among these are: mammals, considerable collections of birds and reptiles, and a large number of fish skins which Langsdorff specially knew how to prepare. In the archives of the Society of Naturalists in Moscow, some records are to be found of considerable zoological collections supplied in the years 1818–1821, by Freireis to whom the Society sent money for this work.

Langsdorff generally sympathized with the needs of the society in which he had to live and work. He had no national and caste prejudices. He strongly advocated the improvement of the hospitals in Portugal and was a firm supporter of the native populations in Russia, where he also urged the improvement of methods adopted by Companies and of the management of Kamchatka, as well, according to the interests of the Russian Government. Now, in Brazil, he began to work for the welfare of the young community in the country which had fascinated him in the days when he first became acquainted with it. He foresaw that it would be one of the richest and happiest countries in the world.

Langsdorff actually disseminated propaganda in favor of immigration to Brazil:—

> "There are no possible means to describe or distantly to imagine the wealth and the beauty of that country. Let them who long for poetical inspiration go to Brazil. Its poetical nature will amply satisfy their longings. Anybody who would describe things simply as they are there would become a poet."

Langsdorff's house became a meeting place for the investigators and lovers of nature. A description of Langsdorff's hospitable house was given by Spix and Martius in 1823 and I found another in a French book about Brazil by Denis in 1846. According to these descriptions the representatives of all the specialties in natural science, both the old residents and the newcomers, were present at those meetings. They compared notes and exchanged views on their observations of nature and these talks stimulated their spirit and energy.

In the course of these years, Brazil was investigated by such renowned naturalists as Spix and Martius beginning in 1819; Jeffroy-St. Hilaire, 1816–1822; Natterer, 1817–1820, etc.

THE RUSSIAN EXPEDITION
1821–1829

At the beginning of 1821, Langsdorff arrived in St. Petersburg and submitted his reports to the Academy. The Emperor, Alexander I, commissioned him to organize an expedition into the interior of South America. Langsdorff was at once joined by Menetrié, an entomologist; Ch. Gasse, a zoologist; Lewis Riedel, a botanist and Langsdorff's chief assistant; Rubzoff, an astronomer and an officer of the Imperial Navy; Freireis, a preparator; and the painters Rugendas, Florance, and Adrian Taunay. Such was the staff of the expedition.

Langsdorff's letter to the Academy printed in the *St. Petersburgische Zeitung*,[1] proves to be the only article printed in Russia with regard to this expedition. The only description of the expedition is given in Mr. Florance's diaries, published in Portuguese.[2] A number of his sketches fell into the hands of K. von den Steinen, the investigator of Brazil, who appended to them his own comments (as to their subject matter) which he published in *Globus*.[3] We also found some information in Martius and Spix's book (1823), as well as in Denis' book on Brazil (1846).[4]

The first three years were spent in short excursions. The herbarium which is in the Botanical Gardens of Leningrad shows that in some parts of the seashore, namely, at Bahia, Rio de Janeiro, and so on, they started collecting plants in 1821–1822. It also contains some specimens of plants brought by Riedel from the banks of the Amazon in 1821. In May, 1824, Langsdorff made a long trip to the province Minas Geraes, resulting in some splendid sketches, a considerable number of plants, and zoological materials.

---

[1] No. 52, June 29, 1828.

[2] Rio de Janeiro, 1875–1876.

[3] Band 75, 1899.

[4] Denis, F., *Bresil, L'Univers. Histoire et Description de tout les Peuples*, pp. 174–178, 316–320.

The main work of the expedition in the interior of Brazil was in 1825 to 1828. Riedel, Nestor Rubzoff, Ch. Gasse, the zoologist, the painters, A. Taunay and H. G. Florance, took part in this expedition, not to speak of Langsdorff himself.

During the end of 1825 and the beginning of 1826 the members of the expedition worked in Sao Paulo State and on July 22, 1826, they started on their downward journey along the river Tieté which is the left tributary of the Parana. Upon reaching the Parana they rowed down it to the mouth of the Pardo and then up this river, to its source. Then the boats were carried across a space of ten kilometers to the Coxim and Taquary rivers, which both belong to the Paraguay system, and then the expedition followed the course of the Taquary as far as the Paraguay, proceeded up the Paraguay and São Lourenço rivers and arrived at Cuyaba, the capital of Matto Grosso State, on January 30, 1827.

> ''Our progress was hindered by the very rapid current of the rivers due to the rainy period of the year. Myriads of mosquitoes swarmed upon us in clouds, mercilessly pricking the naked rowers. We could scarcely find a dry place fit for camping, for every inch of land, as well as all the trees and bushes (in Pantanaes), proved to be covered with millions of ants, so that there was no possibility whatever of getting rid of the cursed insects. They kept tormenting us both in the air and on land. Everybody felt that life was a burden to him. It was scarcely possible to swallow a spoonful of dry beans without having one's mouth stuffed with mosquitoes. All our daily meal consisted of was these beans flavored with some fat. It goes without saying that we could not even dream of getting a draught of fresh water. As the current of the Paraguay is very slow, its waters are filled with all sorts of extraneous matter, namely: red clay, rotten plants, and roots, putrefied fishes, and the musk-stinking urine of hundreds of crocodiles (crocodilus *palpebrosus*). The surface of the water was covered with a hideous scum, repugnant to look at, and quite unfit for drinking. Moreover, the temperature of the atmosphere was usually about 26° to 29° Centigrade in the shade and that of the water invariably 24° during the day, as well as at night. We were wearied by scorching heat and unquenchable thirst; we longed to refresh ourselves; the swarming gnats persecuted us and we were wet with constant perspiration. It is clear that under the circumstances every attempt to start any serious work was entirely out of the question. This hard and dangerous journey lasted for seven months and eight days. At last it was over. At the end of January, 1827, we reached the capital of the Matto Grosso Province, Cuyaba, situated on a large navigable river bearing a similar name.[5]
>
> The enclosed list of zoological materials will show the esteemed Conference of the Russian Academy of Sciences what a considerable addition the articles collected by that expedition will be to the Imperial Cabinet of Natural History. I always heeded the wish of our esteemed chairman to complete, as far as possible, the collections of mammals and at the same time I tried to grant my colleague Pander's wish to obtain skulls and skeletons of rare animals. So now the Museum of the Russian Academy will be adorned by several unique specimens, as, for instance, the skeleton of *Parra chavaria*, Linn, the duplicate of the *Dicholophus cristatus*, etc.
>
> The botanist, Riedel, labored with much zeal and with great success. He obtained a wonderful collection of rare plants and seeds which he intends to add, little by little, to the collection of the Imperial Botanical Gardens in St. Petersburg.
>
> N. Rubzoff continued with much application his astronomical, meteorological, and geographical observations, the records of which I enclose herewith in order to explain the maps.

---

[5] During the dry season, the Cuyaba River dries up amost entirely. Langsdorff must have noticed it himself, but calls it a 'large river' because of the high flood.

The painter, Adrian Taunay, gave us a number of sketches of many remarkable views and rare objects in natural history. These sketches are full of taste and skill and formed a most interesting collection.

As the improvement of knowledge of the natural history of human beings stands near to my heart, I particularly insisted that the sketches of all the Indian tribes observed during the expedition should be made with every possible likeness and accuracy. I have already the satisfaction of obtaining some very instructive sketches of various nations, as of the Cayapos, Guyanas, Guatos, Schamacocos, Bororos, and Chiquitos. A comparison of these sketches will show to the most prejudiced man that all these tribes originate from the Mongolian race.

I venture to hope that the collection of these sketches will arouse a particular interest in Brazilian nations, shortly after my long journey is over.

It must be noticed that during the journey spoken of along the Tieté, Parana, Pardo, Camapuam, Coxim, Taquary, Paraguay, São Lourenço and Cuyaba rivers, I was especially engaged in ichthyology, having described and drawn more than fifty new specimens of sweet-water and river-fish. In future I intend to study this branch of natural history in particular as it proved to have been neglected by a great number of naturalists who had traveled through Brazil before. I hope that the ultimate result of the expedition, which set off under such favorable circumstances and was highly protected by the Monarch and his ministers, will satisfy the expectations of its kind patrons.

I ought to have mentioned that during my travels I was also engaged in observing the fluctuations of the magnetic needle. The method of which I profited was that of an English seaman and must be called English until some other intelligence is obtained as to its origin. This method in the first place consists in setting the 'inclinatorium' at the level of a horizontal plane; then the south pole of the inclinatorium is lowered to 75° with the help of another south pole and the shakings of the needle are observed until it stops. These observations are carried on with utmost care and accuracy.

Now I take the opportunity of sending to the Conference of the Russian Academy of Sciences, descriptions of ornithological materials collected beginning from June, 1826, together with some sketches, etc. The originals can be found in some of the above-mentioned parcels sent now and before and those which were left for some reason or other, will be dispatched with the following collections.''

During nine months, the expedition made investigations not far from Cuyaba.

Then the members of the expedition separated into two groups. The botanist, Riedel, and the painter, Taunay, started on November twenty-eighth down the Guaporé, Mamoré, and Madeira rivers in the direction of the Amazon, and up this river to the mouth of the Rio Negro, where the town Manaos is now situated and where both groups were to meet. The other party with Langsdorff, Rubzoff, and Floranee were to reach the Amazon by way of the Arinos, Juruena, and Tapajos rivers. Then it was planned to follow up the Rio Negro, to cross the place where the Casiquiare and Orinoco rivers meet and begin the investigation of the Guayanas.

But shortly after the separation, the trials of the expedition began. Three months later, on the fifth of January, Riedel's companion, Taunay, was drowned in crossing the Guaporé River. Riedel continued his work alone, along the Rio Madeira and, in September, came down the Amazon and made collections about the mouth of Rio Negro in the neighborhood of the present Manaos.

The other group of the expedition, with Langsdorff, continued to the town of Diamantino which then attracted the searchers for gold and diamonds. On the ninth of March, 1828, the expedition passed from Diamantino to the landing place of Rio Preto, which is the beginning of the route along the river-system of the Amazon. There they put up in order to prepare for their journey along the Amazon. In his diary Florance gives the following account of this camping place.

> ''It is a rather dismal place. The channel of the river is narrow and the river bed is black and slimy. This fact accounts for the name given to it, for Rio Preto means 'Black' River. The soil here is damp, the air in the recesses of the forests is suffocating and 1½ klm. in circuit fed up with malaria. This is why the merchants do not risk coming here before their boats are quite ready for departure.
>
> Rains fell during all the hot period.
>
> Soon we found ourselves in the clutches of malaria. Langsdorff, Rubzoff, and eight workers were taken ill. Some time after, fifteen more persons contracted the same illness. On the thirty-first of March the expedition set out for Tapajos. On their journey amidst the heavy overgrowth, the passengers were constantly threatened with injury by thick boughs and fallen trunks, which projected from the surface of the water and made navigation down the swift river rather dangerous. The sufferings of the members of the expedition became still greater when they had passed the waterfall.
>
> Every day, at the same hour, came such violent attacks of fever that the invalids moaned and trembled, causing the trees on which the hammocks, mosquitero, and awnings were suspended, to shake violently. I saw the foliage of trees which had 33 cm. in diameter tremble at the height of forty palms of the hand.
>
> The mosquitoes caused us no less annoyance than the disease.
>
> Out of thirty-four persons, only fifteen were safe and only eight of that number never had the malaria before.
>
> In crossing the waterfall one of the best boats was broken, another one was badly damaged, so that a new one had to be built. Here we noticed, for the first time, the miserable state of Langsdorff; loss of memory of recent events, an absolute disorder of ideas, such were the results of the fever. This illness, from which he never recovered, compelled us to go to Para and return to Rio de Janeiro, and thus put an end to the journey, that was formerly planned on such a large scale.''

Florance writes:—

> ''We arrived at Para on the sixteenth of September and stayed there for four months waiting for L. Riedel; at last he appeared, very much changed and exhausted from the illnesses caught on the Rio Madeira where he had suffered as much as we had.''

From Rio de Janeiro, Langsdorff was sent to Europe to further his recovery. He died at Freiburg in 1852. Physically he recovered, but the clear mind to which mankind owes the discoveries of endless scenes and riches of the tropics was forever deranged. His notes and diaries are lost.

Florance released himself from all responsibility and started life in the Province of Sao Paulo, married twice there and died in 1879, the father of twenty-one children.

In 1829 the materials of that expedition were brought to St. Petersburg by the astronomer, N. Rubzoff, and distributed in corresponding museums and cabinets of the Academy. We know that as the result of the malaria he lost the use of his legs and died soon after his return to Russia somewhere on the shores of the Caspian Sea.

The Botanical Gardens purchased a large collection of plants brought by Riedel and sent him, together with the gardener, Lushkat, to Brazil a second time. There they established a section of the Gardens which existed for several years for the purpose of studying the medical plants of Brazil. Riedel's collections are considered as treasures in the Botanical Gardens of St. Petersburg and contain over one hundred thousand specimens.

Such was the end of the expedition which could have formed an epoch in the study of Brazil, no less than the classical expeditions of Wied and Castelneau. In fact it can certainly be compared with them in the comprehensiveness of its plan and the number of materials collected. It failed because it had not been worked out and published in due time. In Brazil regrets were often expressed as to the loss of every vestige of that long and well-organized expedition. The chief reason for its being forgotten is the mental derangement of its leader and the source of its inspiration who had not printed a line about it.

In the course of the last century the botanical and zoological collections have declined considerably in value. Anyhow, even now, when examining the botanical collections, botanists succeed in finding and describing new species of plants. But the ethnographical collections and the sketches represent a real treasure, as they refer to the life of the wild tribes then almost untouched by civilization. The ethnographical observations are made on the following tribes: Chavantes, Kayapo, Guaycuru, Guyana on the Paraguay River, Guato at São Lourenço and Cuyaba, Bororo, Apiaca, Paressi and Mundurucu.

UNIVERSITY OF LENINGRAD,
LENINGRAD, RUSSIA.

LES KAINGANGS DE SAO PAULO

Par H. H. Maniser

Prefacio

El finado H. H. Maniser fué uno de los miembros de la Expedición Rusa a Sudamérica que se efectuo de 1914 a 1915. Los otros miembros de dicha expedición fueron Th. A. Fjelstrup, S. W. Geiman, I. D. Strelnikov, y N. P. Tanassitchuk.

La expedición atraveró la Argentina, Paraguay, Brazil y Bolivia y trabajo principalmente en Matto Grosso y en el Paraguay. Durante de la guerra europea los miembros de la expedición abandonaron sus trabajos sin terminarlos y regresaron a Rusia por la via de Londres y Arcangel. H. H. Maniser murio de fiebre tifoidea en el frente occidental. Dejó varios obras ilustradas por el mismo y ya listos mas o menos para ser publicadas. La obra referente a los Kaingang e presentada al Congresso.

—I. D. Strelnikov

C'EST à un poste gouvernemental de l'Inspection des Indiens de l'Etat de São Paulo que j'eus l'occasion de faire mes observations sur les Kaingangs durant les mois de Décembre 1914 et de Janvier 1915, époque pendant laquelle j'ai vecu parmi eux. Un séjour plus prolongé aurait été sans but car je ne disposais pas d'un bon interprète indigène; j'avais à compter également avec le contrôle vigilant d'un fonctionnaire qui craignait perpetuellement qu'il ne se produisit quelque malentendu avec les sauvages. La disparition prochaine de cette tribu, l'insuffisance des notions dont nous disposons à son égard donneront, j'ose le croire, un intérêt scientifique aux matériaux que je veux présenter ici. Les Kaingangs sont quelquefois désignés aussi sous le nom de Coroãdos, Bugres, Botocudos, Kame (Martius).

I. Répartition, Histoire, Littérature

Malgré l'insuffisance des connaissances au sujet des Kaingangs, leur répartition est indiquée sur la carte du Brésil méridional dressée par K. Unkel et editée par les soins de Hermann von Ihering, directeur du Musée de São Paulo. Comme on le voit, ils sont disseminés sur une grande étendue entre le cours inférieur du Tiete, affluent du Paraná, et le bassin de l'Uruguay supérieur.

Le rivage de l'Océan n'a jamais été un lieu d'habitation des Kaingangs; il était occupé, à l'arrivée des Européens, par des villages de Guaranis et, pour ceux-ci, les sauvages de l'intérieur du pays semblaient aussi mystérieux et terribles que pour les nouveau-venus.

Actuellement, les vastes étendues de forêts occupant le bord oriental du plateau et servant d'asile aux sauvages ont cédé place à des plantations de café (dans l'Etat de São-Paulo) et à des plantations de maïs et autres céréales (dans les états méridionaux). La colonisation européenne se propage de façon continue de l'est vers l'ouest et détruit les forêts sans lesquelles ne peut se concevoir l'existence des Kaingangs. Par contre, le bord occidental de leur territoire—le Rio Paraná—qu'ils ont parfois, d'apres leurs récits, traversé lors de leurs incursions, est resté presque intact: seule, la récolte du maté (thé du Paraguay) trouble la tranquillité vierge de ces forêts. La littérature concernant les Kaingangs (voir l'Ethnographia do Brazil Meridional par H. v. Ihering dans la *Revista do Museu Paulista*) nous fournit toute une série de subdivisions de cette tribu en groupes: ce sont vraisemblablement des dénominations de familles. Les Kaingangs possèdent un langage uniforme, mais il est parmi eux des groupes se distinguant des autres par leur coutume de se percer la lèvre inférieure et d'y introduire, en guise d'ornement, une sorte de clou portant le nom de *tembetta.* Cette coutume est commune aussi a de nombreux groupes de Guaranis, ce qui les a fait confondre, sous le nom de Botocudos aves la tribu des Aymores ou Boruns des états d'Espirito Santo et de Minas Geraes. Hensel (*Zeitschrift für Ethnographie,* 1869) affirme que les Botocudos sont en hostilité constante avec les autres Kaingangs (portant le nom de Coroados dans l'Etat de Rio Grande do Sul).

Dans les récits des Kaingangs septentrionaux parmi lesquels j'ai vécu, les Botocudos sont representés comme des ennemis particulièrement redoutables et d'après eux, un des chefs (Wauwĩ) descendait d'un Indien a la lèvre inférieure percée. Le mérite de la pacification des Kaingangs et de la securité de la ligne de chemin de fer de São Paulo à Matto Grosso, revient à un service gouvernemental special fondé en 1910—Serviço de Proteçcao aos Indios. Celui-ci a réussi a établir des relations avec les Kaingangs de l'Etat de São Paulo près de la station de chemin de fer ''Hector Legru'' et à fonder, dans la forêt même, un établissement appelé à entretenir des relations pacifiques avec les sauvages et à les initier, autant que possible, à des us et coutumes de civilisation.[1] C'est là qu'il m'a été donné de les observer. En fait de littérature concernant les Kaingangs nous ne possedons en somme que des fragments d'origine fortuite. En dehors de l'ouvrage d'Horta Barbosa, nous avons un article du capucin Santin sur le groupe de S. Paulo, Una Spedizione ai 'Coroados' nello Stato di S. Paulo nel Brasile, dans l'*Anthropos* (1906, vol. I), étude très fragmentaire basée sur un contact très passager avec les sauvages, ou plutôt sur les traces que ceux-ci ont laissées. Nous pouvons puiser des renseignements sur les familles ou groupes méridionaux (de la province argentine Misiones et de l'Etat Rio Grande) dans l'ouvrage du professeur Ambrosetti, Los Indios Kainganges de San Pedro (Misiones) vol. II de la *Revista del Jardin Zoologico de Buenos Ayres,* pages 305–387, avec onze dessins, 1894; dans l'article de l'explorateur allemand Hensel, qui a passé une semaine parmi ces Indiens: Die Coroados der Brasilianischer Provinz Rio Grande do Sul (*Zeitschrift für Ethnologie,* 1869); et, enfin, dans l'article du jésuite Teschauer, Die Kaingang oder Coroados-Indianer (*Anthropos,* vol. IX, 1914, pages 16–31). Ce dernier auteur a été en contact avec les Indiens dans les environs de Cazeros et de Nonohag (c'est une faute d'impression; il faut lire: *Nonohay,* dans les bassin de l'Uruguay supérieur). Dans ses *Beiträge,* Martius parle des Kaingangs (Kamé) comme d'une "Colluvies Gentium," c'est à dire comme d'un ramassis de mulâtres, de forçats fugitifs; d'après lui, leur langage n'est qu'un mélange récent et artificiel de plusieurs idiomes indiens avec le jargon africain ou même avec le jargon professionnel; il aurait été plus simple d'avouer que l'on ne sait rien d'eux que de fonder de pareilles theories sur des matériaux insuffisants. Je ferai remarquer que, quelque superficielle que soit notre connaissance actuel des Kaingangs, elle nous montre qu'ils représentent une tribu originale, indépendante et fort intéressante. Grammatiquement, le langage des Kaingangs nous est inconnu; nous avons un faible essai de recherches sur ce sujet dans l'article de Lucien Adam: Le parler des Kaingangs (*Congrès Americain,* Paris, 1900). Cet auteur a rassemblé dix courtes listes de mots et en a formé un petit dictionnaire. Mais, dans le domaine de la grammaire, tout ce que L. Adam a reussi a réunir sont les pronoms possessifs et la particule negative.

---

[1] On trouvera une description detaillée et éloquente de la pacification de Kaingangs dans la brochure de L. B. Horta Barbosa, *A Pacificação dos Caingangs Paulistas,* Rio de Janeiro, 1913.

II. CONDITIONS NATURELLES DE LA CONTRÉE

Le sol de la forêt vierge habitée par les Kaingangs est la fameuse "terra roja" (terre rouge) extraordinairement fertile et particulièrement propice à la culture du caféier; et ceci est précisément la cause de ce que les jours qui restent à vivre aux sauvages sont comptés. Les plantations de caféir, ce si précieux arbuste du Brésil, se sont déjà étendues au delà du chemin de fer qui a traversé ces forêts inabordables; la forêt n'est pas en état de lutter avec ce nouvel ennemi. En attendant, il existe pourtant encore de vastes étendues restées intactes et même inexplorées. Ces forêts sont situées sur un plateau arrosé par les affluents de la rive gauche du Paraná: ce sont Rio Tiete, Rio Aguapehy, Rio Paranapanema au cours torrentueux et semé de rapides; les essences prédominantes de ces forêts sont les géants typiques des tropiques du Brésil: les Perobas, les Cedros, les Jatobas, les Tiquitibas. Les arbres fruitiers y croissent en abondance; on y rencontre l'*Ilex Paraguayensis,* espèce de houx qui, dans les parties mériodionales, est l'objet de toute une industrie: ses feuilles servent à la preparation du maté (thé du Paraguay). Le bambou est représenté ici par une grande quantité d'espèces les plus variées et ses applications sont extrèmement nombreuses. Au sud de Paranapanema commence la region des bois d'araucarias; leurs cones servent de nourriture aux Kaingangs méridionaux pendant les mois d'hiver (mai, juin), d'après Hensel. Beaucoup de palmiers disseminés parmi les autres essences. Les abeilles sont très nombreuses dans la forêt, et leur miel est tres varié comme goût et comme arôme. Le gibier y est très abondant, surtout dans le voisinage des ruisseaux, des lagunes, et des petits lacs. Même à la lisière de la forêt, abordable aux blancs, il n'est pas rare que les chasseurs tuent des tapirs et des biches; dernièrement encore on en rencontrait constamment sur la voie du chemin de fer. Dans l'épaisseur des forêts la faune est très riche; ce sont les singes (les grands barbados et les petites macaques), les "nasuas," les tatons, les fourmiliers, les cochons sauvages (*Dicotylus* de différentes espèces). Comme oiseaux, de grandes quantités de penelopes et toutes les variétés possibles de perroquets. Les Kaingangs se tiennent exclusivement dans les forêts épaisses. Ils évitent soigneusement les endroits découverts (campos) et le voisinage des larges rivières.

III. LA "VILLA KAINGANG" ET LA "VILLA SOPHIA"

Le poste de l'Inspection où il m'a été donné de vivre parmi les Kaingangs est situé à deux kilomètres seulement de la station de chemin de fer "Hector Legrú," dans une large tronée percée dans l'épaisseur d'une haute forêt (à une altitude de 400 mètres environ au dessus du niveau de la mer). Ce poste consiste en deux groupes d'habitations éloignés d'un demi-kilomètre l'un de l'autre. Le plus proche de la gare, la "Villa Kaingang" est l'installation des agents du gouvernement; il est habité par le directeur et sa famille, des ouvriers, et une partie des Indiens. L'autre groupe, la "Villa Sophia," plus éloigné de la gare, se trouve en pleine forêt dans un milieu primitif et à moitié sauvage; il est habité seulement par des Indiens et il est interdit d'y pénétrer sans l'autorisation du directeur et sans interprète.

Les Indiens n'ont, évidemment, presqu'absolument rien appris et n'ont en aucune façon abandonné leurs coutumes pendant cet espace de deux ans et demi. Tout le rôle du directeur consiste à conserver les bonnes dispositions des Indiens, à éviter par tous les moyens possibles les malentendus et les querelles, et á mettre les Indiens à l'abri de toute influence étrangère. Pour ne rien compliquer on s'est même débarrassé des interprètes provenant d'Indiens de cette même tribu et amenés de l'état de Paraná, aussitôt que leurs services n'ont plus été absolument nécessaires. En qualité d'interprète on a actuellement un jeune garçon brésilien qui est au courant du langage juste autant qu'il est nécessaire pour conserver le "status quo" et ne présente, par consequent, d'inconvénient d'aucun côté. Les fonctions administratives consistent à arranger les malentendus, à démentir patiemment les bruits de toutes sortes et les cancans qui jettent constamment l'alarme parmi les Indiens, à leur apprendre longuement et patiemment à ne pas mettre leurs pieds sur une nappe propre, à ne pas fourrer leurs mains dans les assiettes des autres, à ne pas se promener tout nus, à ne pas se battre entre eux, etc.

L'irréligiosité du gouvernement républicain et des agents fait que l'on ne touche en rien à la religion des Indiens. L'administration du poste considère, en principe, comme inadmissible de s'opposer en quoi que ce soit à leurs rites et cérémonies; les employés vont plus loin dans ce sens et offrent leur concours pour les fêtes, les danses et les funérailles; il est même arrivé, une fois, qu'un enterrement a été exécuté entièrement par les ouvriers, les Indiens ayant refusé d'y prendre part, mais selon leurs indications et leurs coutumes. Les Indiens apprécient ce concours et ils ne perdent jamais une occasion d'y avoir recours.

Aucun Kaingang n'a encore appris le portugais. Pourtant tout un groupe d'eux a visité déjà les centres civilisés. En 1913 un arpenteur et tous ses ouvriers furent massacrés dans la forêt; les coupables ne nièrent pas leur crime, mais dirent qu'il avait été provoqué par les blancs par un vol de maïs dans leur champ. Les coupables furent envoyés aux frais de l'Inspection par chemin de fer à São Paulo, d'autres plus loin à Santos, au bord de l'Océan, et à Rio de Janeiro. On leur fit visiter les musées, les prisons, les hôpitaux; on les conduisit au théâtre et au cinématographe. L'impression produite fut, paraît-il, énorme. A leur retour, les Indiens racontaient qu'ils s'imaginaient auparavant qu'en dehors de la ligne de chemin de fer et de quelques colonistes établis sur la lisière de leur forêt, il n'éxistait pas d'autres blancs; ils n'avaient, naturellement, aucune idée des villes. Ils n'avaient pas, jusque-là, vu la mer. Les miracles de la civilisation leur firent une impression qu'ils formulèrent par une phrase répetée fréquemment: "fɔg—kaȋrɔ—mmbɪ,"[2] ce qui veut dire: "le blanc sait beaucoup." Depuis une année s'est écoulée paisiblement, mais on ne peut être assuré qu'il ne se produise, un beau jour, quelque malentendu qui puisse amener une nouvelle catastrophe.

IV. Mode d'Existence

La vie est loin d'être tranquille au poste; elle est troublée constamment par des passages tragi-comiques entre Indiens et par l'agitation des cérémonies de leur culte des morts.

De grand matin, au réveil, commence a retentir dans une hutte quelconque un gémissement rituel qui dure souvent pendant plusieurs heures. La signification de ce gémissement est invariable: elle peut se traduire par les paroles suivantes: "rappelons le souvenir (ou bien je me souviens) de tel ou tel parent décédé à telle époque" (il s'est écoulé parfois une année ou deux après le decès!) Ce gémissement, à son tour, rappelle aux autres Indiens le sort de leurs parents décédés, et les pleurs se font entendre simultanément de différents côtés.

Finalment ils sont interrompus par une occupation quelconque: c'est, par exemple, l'opération quotidienne qui consiste à piler du maïs dans un mortier énorme et qui est executée souvent par trois femmes à la fois, ou bien c'est la cuisson des galettes de maïs, ou, encore, le modelage d'ustensiles en terre glaise; puis on s'en va dans la forêt cueillir les fruits des bromelias et des phyllodendrons et fouiller la terre à la recherche de racines. Les hommes vont dans les champs ou restent couchés à la maison; ils chassent armés d'arcs et de flèches, recueillent le miel, attrappent des perroquets avec des engins spéciaux, etc.

On ne cesse de manger toute la journée. En dehors de la nourriture qui leur est fournie toute préparée par l'inspection (avec des assiettes et des cuillers), tout ce qui est rapporté de la forêt est dévoré avec appétit grand.

Dans la soirée, au crépuscule, ainsi que pendant la sieste durant l'ardente chaleur de l'après-midi, les gémissements en souvenir des morts se renouvellent. Même au milieu de la nuit on est réveillé par les sons familiers d'une voix glapissante qui traine toujours la même note lugubre. L'indien se couvre la tête avec sa couverture pendant qu'il émet ce gémissement rituel. Ce sont surtout les femmes qui gémissent; les hommes beaucoup plus rarement.

---

[2] Pour transcrire les phonèmes de la langue Kaingang, ont été appliqué les désignations suivantes:

ε – (grec epsilon)—*e* sourd et bref.
ɔ – resemblante au *c* latin retourné, signifie *o* fermé.
χ – (grec)—comme *ch* allemand en Bach.
ä – *a* sourd, comme en anglais, *man*.
ɪ – *i*—sourd et bref, comme *i* bref d'anglais, *willow*, mais plus guttural.
Tous les autres symboles sont pris de l'alphabet latin.

Les animaux apprivoisés pullulent dans les habitations: on y voit toutes les espèces possibles de perroquets, des "nasuas," des macaques, des pénélopes, même des piverts. Les Indiens ont beaucoup d'affection pour ces bêtes; ils leur donnent à manger, de leur propre bouche, du gruau maché ou bien à boire de l'eau édulcorée de miel. Les macaques et les "nasuas" sont les animaux favoris des femmes et des enfants; ils s'installent sur le cou, l'epaule ou même sur la tête de leur maîtresse et ne s'en séparent jamais. On se sert des perroquets apprivoisés pour attirer les perroquets sauvages à la chasse et on les mange au fur et à mesure. Les enfants jouent avec de petits arcs, se baignent constamment dans la rivière, organisent des fêtes en miniature, imitant leurs parents, attrapent des lézards, des grenouilles, etc.

Quelquefois, par plaisanterie, les garçons attrappent une jeune fille, lui barbouillent tout le visage avec de la cire mêlée de charbon; elle se promène ainsi pendant quelque temps pareille a une négrese; on ne voit que ses yeux et ses dents.

V. CARACTÈRES PHYSIQUES

A défaut de mensurations nous sommes obligés, pour définir le type physique des Kaingangs, de nous borner à des indications descriptives.

La taille des Kaingangs est moyenne ou petite; on ne rencontre pas de sujets de grand taille; mais leur corps est bien proportionné et leur musculature est fort developpée. Épaules larges, poitrine forte, la plante des pieds est relativement petite et les poignets minces. Le cou est très court.

La forme de la tête est allongeé en arrière. L'allongement et l'aplatissement de la tête chez les nouveau-nés sont surprenants. On ne pratique pas systematiquement la déformation à l'aide de bandages, mais les femmes pressent simplement avec leurs mains la tête du nouveau-né des côtés et d'avant en arrière, "afin de l'arrondir"; je ne saurais juger dans quelle mesure cela peut influer sur la forme du crâne.[3]

Le nez est large et court, avec des narines retrousées en avant.

Le teint est très clair; la peau des Kaingangs n'est pas plus foncée que celle des hommes bruns de race blanche; mais lorsque, sous un soleil ardent, les Kaingangs se trouvent dans des lieux découverts, ils hâlent fortement et leur peau prend une teinte foncée, cuivrée, rappelant celle d'une tuile ancienne. Ehrenreich attribue, à juste raison probablement, au hâle le teint foncé des Indiens Caraya du R. Tocantins. Un nouveau-né qu'il m'a été donné de voir le jour de sa naissance avait la peau d'un rose-pâle avec des tons lilas; son visage était plus foncé que son corps. Il existe, parmi les sauvages, un albinos aux cheveux clairs; malheureusement je n'ai pas eu l'occasion de le voir; c'est cet albinos qui a été la cause d'une légende d'après laquelle "un allemand" aurait vécu parmi les Indiens.

Les poils couvrent tout le corps; sous les aisselles et sur le pubis ils sont un peu moins fournis que chez les blancs. Les poils et les cheveux sont noirs, quelquefois comme ternis par le soleil. J'ai remarqué, dans trois cas, des mèches fortement ondulées et frisées; chez deux femmes et chez un homme à longs cheveux. La barbe pousse tard: je n'ai vu que deux Indiens barbus, c'étaient des hommes agés; les autres étaient imberbes. Une vieille, Kukri, avait une moustache fournie. Les sourcils sont épais, mais sont fréquemment rasés. Les cils sont tres longs et fournis, ce qui donne aux Indiens un aspect agréable, au goût européen.

---

[3] Le schéma général, d'ailleurs fort aléatoire, de la repartition de l'indice céphalique dans le continent de l'Amérique du Sud consiste en une tendance a la dolichocephalie à l'est et à la brachycephalie à l'ouest. La longuer de la tête des Kaingangs s'accorde avec ce schéma.

On observe quelquefois le prognathisme des dents et des mâchoires; j'ai pu noter le premier, du moins, chez quatre individus d'une même famille. J'ai remarqué, chez beaucoup de sujets, l'absence d'incisives dans la mâchoire supérieure et, parmi les individus plus jeunes, une usure particulière des incisives; les Indiens n'ont pas pu m'expliquer l'origine de cette usure; c'est, probablement, le résultat inevitable de quelque nourriture végétale (noix ou autres corps durs).[4]

Dans quatre ou cinq cas j'ai remarqué que les yeux étaient fendus obliquement, chez des enfants plus particulièrement.

La demarche des Kaingangs est souple et sans bruit; ils font de petits pas et relevent, à chaque pas, le pied un peu plus haut que nous: manière de marcher pour éviter le bruit des pas sur les sentiers forestiers jonchés de branches.[5] En marchant, ils posent le pied en dehors, les femmes surtout. Les Indiens peuvent rester longtemps debout sur une jambe, en relevant très haut l'autre et en appuyant la plante d'un pied sur l'autre. C'est la pose d'attente: ils se tiennent ainsi, par exemple, quand ils attendent que leur chien chasse un gibier hors d'un bois (on observe une pose similaire chez les Botocudos et les Bororos). L'Indien peut facilement relever avec son pied un objet même très petit, le prenant entre l'*hallux* et le *segundus*. J'ai souvent observé un procédé semblable chez les Kadiuweos: il est fort commode. Ils s'assoient par terre, "à la turque," ou bien ils mettent leur pied sous soi.

Un des habitants du village, nommé Kriχ, avait à la gorge un goître volumineux: de la son nom qui signifie "gorge." Le frère du "capitaine Wauwĩ" est sourd-muet. En général, le mutisme est fréquent chez les Indiens: j'ai également rencontré des sourds-muets parmi les Chavantes (Fayas) et parmi les Botocudos, quelles que peu nombreuses que soient leurs communautés.

VI. HABITATION

Le gouvernement a construit des petits hangars et les a mis à la disposition des Kaingangs; mais ceux-ci préfèrent souvent habiter des huttes qu'ils font eux-mêmes; ils démenagent toujours dans ces huttes en cas de maladie ou de mort de quelq'un. Ils élèvent des huttes semblables dans la forêt pendant leurs expéditions cynégétiques périodiques. J'ai observé à plusieurs reprises leur mode de construction.

Ils plantent en terre obliquement et parallèlement entre elles deux ou trois perches. Puis ils coupent un palmier dans les environs et en apportent les feuilles. Ils les emploient en guise de couverture et les préparent de la façon suivante: ils tiennent la feuille de palmier le pedoncule en haut puis, se dirigeant vers son extrémité, ils en déchirent les lamelles à droite et à gauche avec le pouce; les lamelles pendent ainsi librement retenues par les fibres du pédoncule; si on tient alors la feuille horizontalement, les lamelles retombent et forment une double frange épaisse (Fig. 1, *7*).

---

[4] Roudenko a noté une usure des dents fort semblable chez les Ukrainiens qui ont l'habitude de ronger constamment des graines de tournesol.

[5] Strelnikov, I. D., Les Kaa-ihwuá du Paraguay, *Atti del XXII Congresso Internazionale degli Americanisti*, Roma, 1926. L'auteur a observé le même chez Kaa-ihwuá.

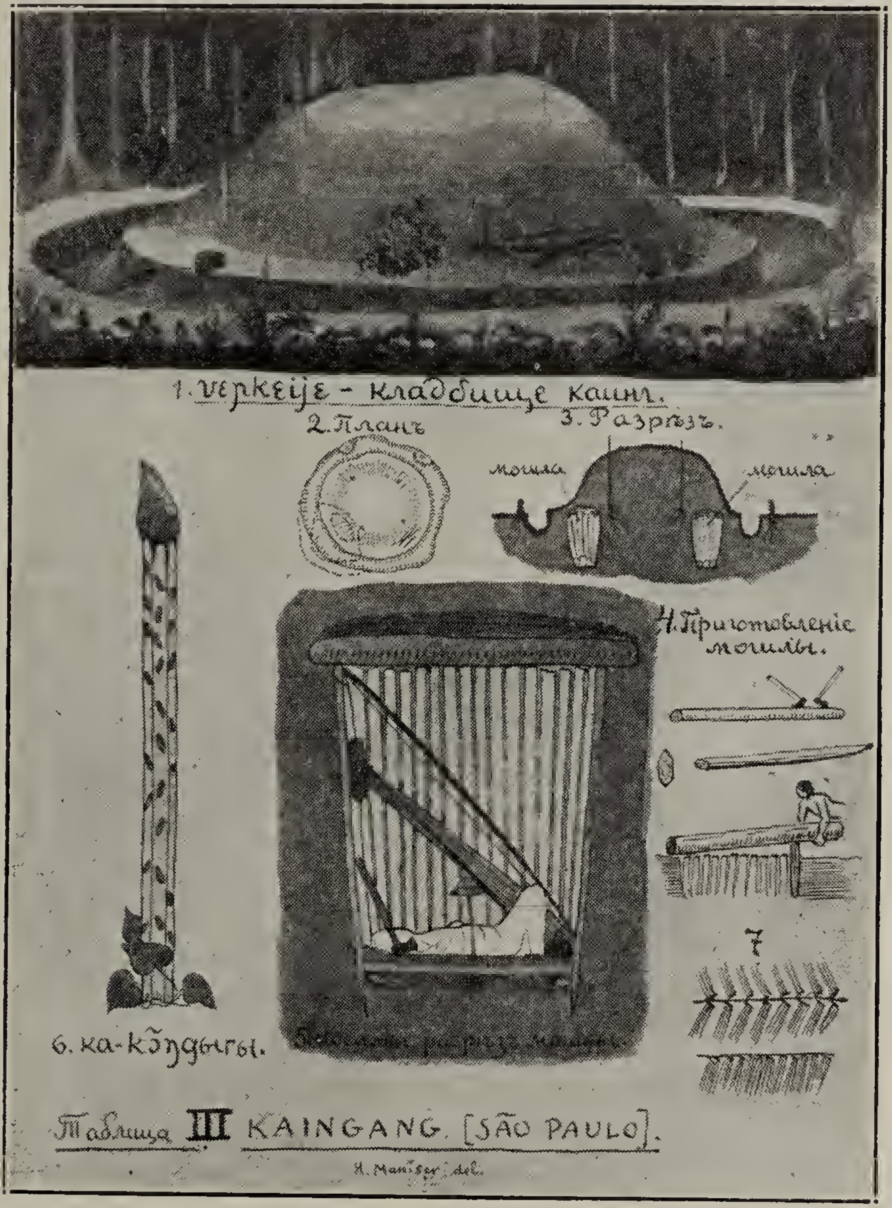

1. vẽpkẽjẽ - кладбище каинг.
2. Планъ
3. Разрѣзъ.
могила
могила
4. Приготовленіе могилы.
7
6. ка-кõŋgыгы.
Таблица III KAINGANG. [SÃO PAULO].
H. Maniser del.

FIG. 1

Les feuilles préparées ainsi sont disposées horizontalement à l'extérieur sur des pieux fichés en terre obliquement, en commençant par le bas. Les feuilles sont attachées aux perches à l'aide des lamelles déchirées, sans faire de noeud, en introduisant les extrémités tordues dans une fente quelconque. La feuille supérieure recouvre légèrement la précédente, comme des tuiles. Quelquefois la hutte est soutenue par une perche plantée du côté opposé, ou bien on construit, de l'autre côté une autre toiture de moindres dimensions que la première, et on obtient ainsi un toit à deux côtés (voir la figure représentant la hutte).

Une série de pareilles huttes forme une espèce de couloir, mais chaque propriétaire a son foyer à lui.[6]

---

[6] Santin décrit un couloir semblable dans l'article cité. Hensel dit que les habitations des Kaingangs sont couvertes d'herbes et non pas de feuilles de palmier.

Les Kaingangs dorment sur des feuilles de palmier préparées de la même façon que pour la toiture; ils les disposent en plusieurs couches, la frange à l'intérieur. Ils n'enlèvent nullement la peau des animaux (comme, par exemple, les Botocudos et les Kadiuweos) et ne les emploient pas comme litière. (Teschauer affirme (p. 23) que sur le Rio Grande les peaux de bêtes servent également de litière.)

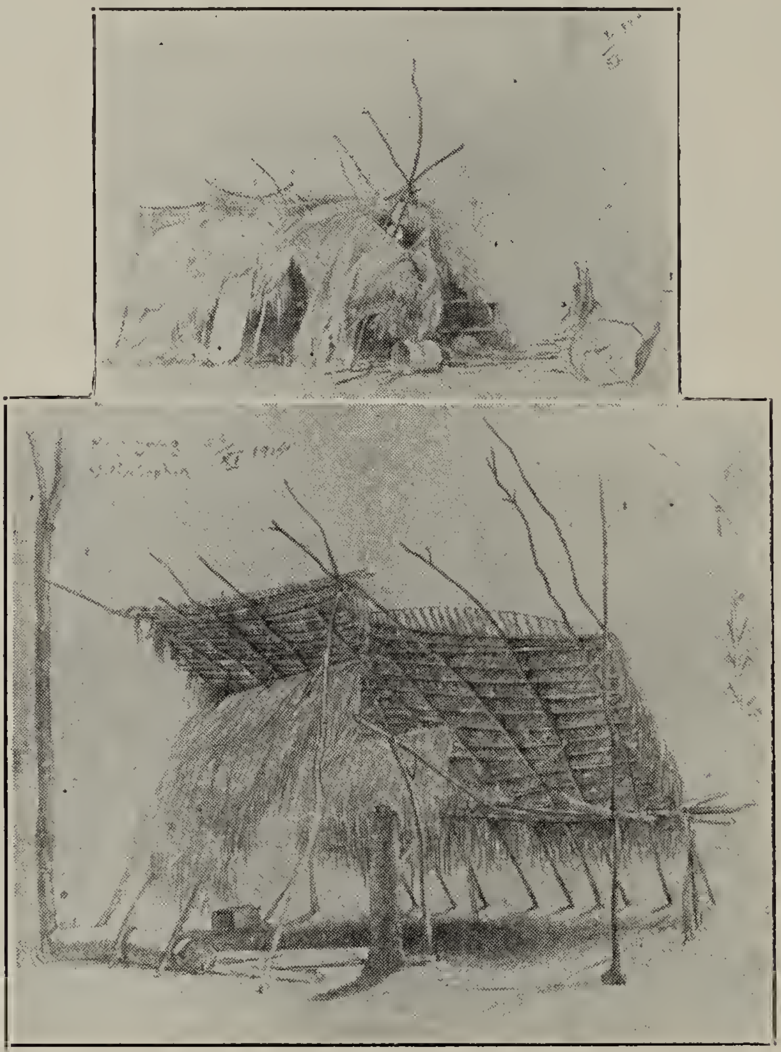


Fig. 2 ·

Il n'est pas rare de voir des guirlandes de crânes de macaques (une cinquantaine de crânes quelquefois) servir d'ornement aux habitations: ce sont des trophées de chasse, indices du bien-être du propriétaire. J'ai rapporté pour le Musée de l'Académie des Sciences, une telle guirlande. Les enfants des Indiens du poste me racontaient plus d'une fois que les Kaingangs employaient de la même façon des crânes humains et Santin, par ouï-dire également, raconte que les Kaingangs portent ces têtes avec eux, mais je n'ai pas eu confirmation de ce fait.

VII. Vêtements et Ornements

Les hommes, même ceux qui ont des vêtements fournis par le gouvernement, portent autour des reins une ceinture épaisse formée d'écheveaux de fils bruns et brillants tressés en corde faite de l'écorce des jeunes racines du phyllodendron (*cipo imbé*). Cette ceinture est l'unique "vêtement" et l'unique ''ornement'' des hommes; qui ne l'enlèvent jamais. Les garçons nouveau-nés, je l'ai vu moi-même, ont une pareille ceinture déjà quelques jours après leur naissance. J'ai vu, en outre, pendant les fêtes Kiki, quelques hommes porter sur leurs epaules de grands manteaux (*kuru*) tissés par eux-memes.[7] Les vieillards ne se servent des vêtements que leur fournit le gouvernement qu'en présence de personnes étrangères; aussitôt qu'ils se trouvent chez eux, ils les enlèvent, ils ne les portent pas non plus quand ils vont à la chasse, et ils préfèrent s'en passer quand ils prennent part à leurs cérémonies et à leurs danses.

Les jeunes gens se sont habitués quelque peu aux vêtements du gouvernement pendant ces deux dernières années, mais ils ne les portent que tant qu'ils ont un aspect neuf et frais.

Les femmes ont un costume special tissé par elles-mêmes: c'est un pagne court (d'environ 50 centimètres de longueur) qui se ferme du côté; il est fait des fibres des feuilles de la bromélie des forêts (*aguatá*). On fait macérer les feuilles de cette plante dans l'eau; puis, on les fait secher, on les brise (comme du chanvre) et on fil les fibres avec la paume de la main sur la cuisse, sans l'aide d'un fuseau. Quand on a obtenu un écheveau considérable, on tresse ou on tisse le tissu simplement avec les mains, sans se servir d'aucun instrument; c'est du moins ce que l'on m'a affirmé au poste où l'on a eu l'occasion d'observer ce travail maintes fois. Je regrette de n'avoir pu me rendre compte moi-même de ce procédé de tressage ou de tissage, mais l'épaisseur du fil et la grossiereté particulière du tissu lui-même ne doivent pas rendre ce travail trop difficile. Cette étoffe est toujours ornée d'un dessin en forme de degrés de couleur foncée et fait d'un seul fil; ce dessin croise diagonalement la pièce d'étoffe soit sur les pagnes, soit sur les manteaux d'hommes dont j'ai parlé plus haut et qui sont faits de la même façon. On retrouve ce même dessin sur les paniers. Je ne sais comment on teint le fil qui sert à se dessin.[8]

Le ''jupon'' est retenue à la taille par une large ceinture en écorce de l'imbiruçú, teinte d'une couleur noire brillante. Les bouts de la ceinture sont tordues et passées sous la ceinture elle-même. L'opération de teinture consiste en ceci: La femme s'assied devant un feu avec l'écorce et des morceaux d'un petit bambou vert (*Bambusa*) apportés de la forêt. Après avoir mâché les noeuds charnus des tiges, elle crache le jus rouge mélangé de salive dans la main et frotte avec la main la ceinture d'écorce; le jus sèche rapidement au feu et prend une teinte bien noire. D'après les ouvrières elles-mêmes, cette teinture raffermit et préserve les ceintures.

On teint de la même façon les liens en écorce dont se servent les mères pour porter leurs enfants sur leur dos.

L'ornement qui est porté le plus fréquemment est un collier de dents de macaques (*cebus spec. var.*). Presque tous possèdent un tel collier et ils y tiennent beaucoup: je n'ai pas réussi a en échanger un seul! Il est fait d'incisives du singe. Les racines des dents sont percées de petits trous dans lesquels on fait passer un fil de cragvatà; puis les dents sont fortement entrelacées par une lanière d'écorce de phyllodendron de façon qu'elles soient parfaitement immobiles dans un seul plan.[9] On rencontre, en outre, des colliers de graines noires semblabes à ceux des Guaranis, Fayas, et autres tribus.

---

[7] Le tissage est le même que pour le pagne des femmes. Le tissu est raide et épais; des pièces rectangulaires de ce tissu forment le manteau et retombent presque sans pli des épaules sur le dos. Le Musée de São Paulo possède d'excellents échantillons de ce tissu.

[8] Je n'ai pas vu de manteaux (*kurú*) percés d'un trou pour passer la tête, dont parle Teschauer (*loc. cit.*, p. 21); il est possible que sur le Rio Grande ce soit devenu une imitation du manteau très répandu parmi les blancs et portant le nom de poncho.

De perles en verre ce n'est que les perles blanches qui ont du succès; les Kaingangs sont complètement indifférents à toutes les autres couleurs de perles; ils en font quelquefois des bracelets pour les bras, mais jamais pour les jambes (comme, par exemple, chez les Kadiuweos). On attache aux jambes des enfants, en guise de grelots, des becs de toucan en grappes. On voit assez souvent au cou des femmes des colliers de coquillages; ce sont, d'après la définition de H. v. Ihering a qui j'ai montré cet ornement à São Paulo, des "*Oxystyla flogera*" (mollusque gastropode).

On remarque encore une espèce d'ornement qui n'est arboré qu'aux fêtes, et par les hommes seulement: ce sont de petits diadèmes ou "visières" de plumages éclatants de toucans; on les dispose juste au-dessous de la ligne des cheveux peignés en avant et taillés horizontalement, d'une tempe a l'autre; les tempes sont rasées (Fig. 3, *9*).

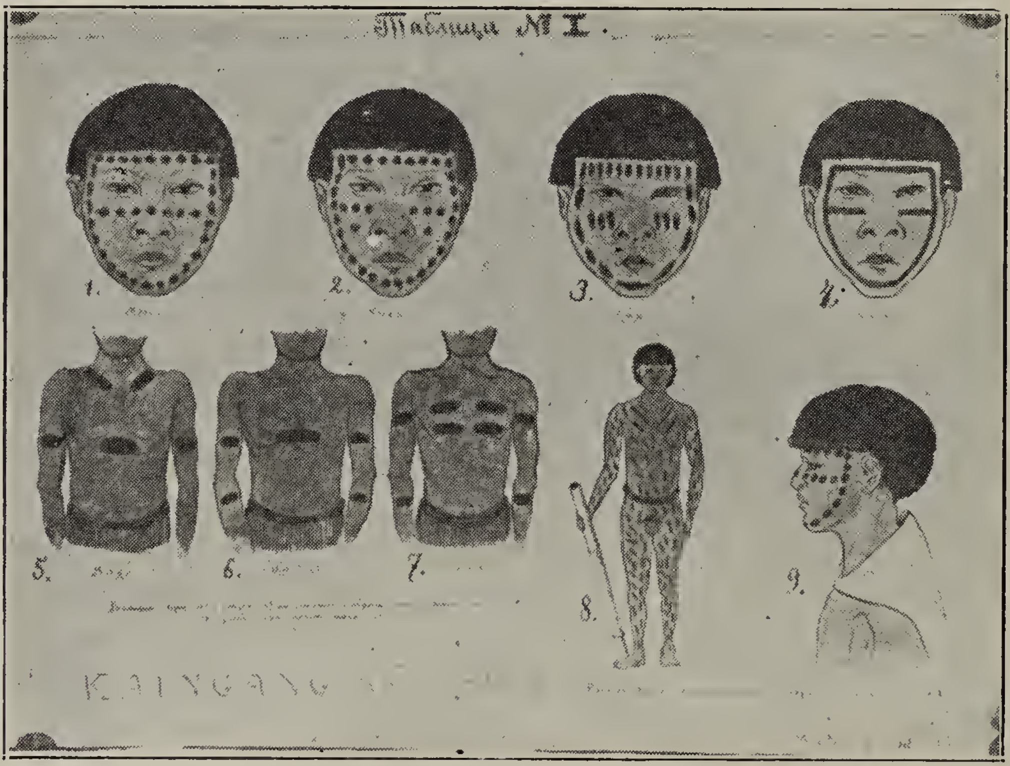


Fig. 3

VIII. Soins de l'Aspect Extérieur

Les Kaingangs se peignent les cheveux avec un peigne serré fait de bâtonnets de bois de palmier, semblables a des allumettes, plantés dans la fente d'une petite planchette et fixés avec de la cire.

Les femmes portent les cheveux plus courts que les hommes, bien également taillés sur le front et le cou (coiffure à l'anglaise). On rase la tête des garçons bientôt après leur naissance; on ne leur laisse que des mèches noires sur les tempes. Les enfants plus agés conservent la même coiffure: de longues mèches noires pendent aux tempes, tandis que tout le sommet de la tête est soigneusement rasé.[10]

---

[9] Cet ornement est répandu également chez les Kaingangs du Rio Grande (voir Teschauer, p. 21, *loc. cit.*)

Avant les fêtes Kiki les adultes se grattent mutuellement tout le visage avec un morceau de verre, ne laissant pousser que les cils. Les hommes se rasent également les tempes afin d'obtenir une ligne horizontale au-dessus du front jusqu'aux oreilles (disposition du diadème mentionné).

Pour se peindre le corps on se sert d'une couleur préparée en pilant dans un mortier du charbon avec de l'eau edulcorée de miel. On ne se peint que pour les enterrements ou pour les offices des morts. Tous, alors, se décorent le visage de points ou de petits traits noirs à travers le front, sur les joues et sur le menton (Fig. 3, *1* à *4*). Je n'ai observé la peinture du corps tout entier que chez des individus revenant du cimetière aux fêtes Kiki. Ce sont des badigeonnages très courts ayant la forme de virgules disposées sans ordre perceptible (Fig. 3, *8*). Ceux qui prenaient part à l'enterrement le lendemain avaient également le corps badigeonné, mais, cette fois-ci, de larges lignes noires sur la poitrine: d'après eux cela les preserve d'une mort immédiate qu'aurait attiré sur eux l'animosité de l'esprit malin du défunt. (Figs. 3, *5* to *7*). Je n'ai pas pu éclaircir la signification des variations individuelles dans la peinture du corps.

IX. NOURRITURE ET APPROVISIONNEMENT

Chez les Kaingangs les hommes chassent, les femmes recueillent les fruits et les racines. On chasse à l'arc, avec des flèches. Les arcs sont énormes: il m'est arrivé d'en voir d'une longueur de près de trois mètres. Le bois de l'arc est rond, en section. Il n'est nullement recourbé, ce qui permet de s'en servir comme d'une massue pendant les rixes; ce sont précisément les fonctions qu'il est arrivé de remplir à l'arc que possède actuellement L'Académie des Sciences.

La corde, très épaisse, est faite de fibres de eragvatà et est bandée par torsion. Pendant le tir l'arc est tenu verticalement et on dirige la flèche avec l'index de la main gauche.

Les flèches sont d'une longueur extraordinaire, conformément à la longueur de l'arc; elles mesurent environ 1 metre ¾. Elles sont en même temps très droites et fort minces (beaucoup plus minces que les flèches plus courtes des Botocudos et de la tribu des Chacos). Chaque flèche est composée de trois parties: la hampe, l'enchassement, et la pointe. La hampe est empennée et toujours en roseau. On se sert, pour l'enchassement, du "*pao alicrim,*" un bois blanc qui, seché, devient extrêmement légèr. La pointe et l'empennement sont retenus par de l'écorce enroulée: c'est toujours la même écorce de "cipo imbé" (*philodendron imbé*), employée par tous les tribus du Brésil.[11]

Les pointes sont de quatre types différents, les mêmes qui ont été décrits par Hensel.

---

[10] Hensel (*op. cit.*, p. 130) dit que anciennement les Kaingangs avaient la tonsure, ce qui leur a valu le nom de "couronnés" (coroados), mais que lors de ses observations (1865), la tonsure n'était conservée que pendant l'enfance; plus tard on laissait pousser les cheveux librement.

[11] On se sert quelquefois également de fil. Dans l'ouvrage de Hensel il n'est question que de fils faits de fibres des pédoncules des feuilles du palmier tucum (*Astrocaryum*).

1. *nduχ* (*ka:rɛ̀*), pointe en os tubuleux de singe, aiguisé sur la pierre et formant a son autre extrémité, aiguisé, également, une encoche pour retenir la flèche dans la plaie: sert pour le gibier ordinaire: singes, "nasuas," etc. Ce type est representé schématiquement par la Fig. 4, a.

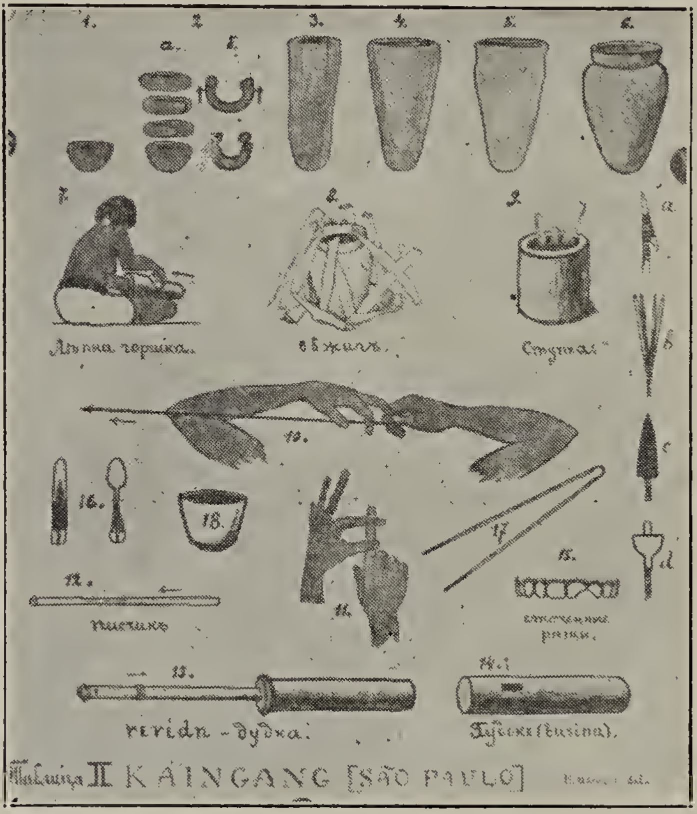


Fig. 4

2. *ndu-χɪχ*, pointe en fer plantée dans la hampe par son bout inférieur.[12] On la prépare d'une lame métallique quelconque: couteaux, culliers, fourchettes, etc. (Au commencement de son service, le directeur ne pouvait arriver à sauver aucun de ses couverts.) On emploie cette pointe contre le gros gibier; les tapirs, les jaguars,—et l'homme; le procédé par lequel cuillers et couteaux de table sont transformés en pointes de flèches est indiqué à la Fig. 4, *16,* la pointe elle-même est représentée par la Fig. 4c.

3. *kɔχɔ'*—pointe en bois quadruple; les quatre épines se dressent en avant quelque peu écartées; elles sont liées par de l'écorce enroulée à une tige enchassée et plus grosse; on s'en sert pour tuer les oiseaux qu'on arrive parfois, parait-il, à attraper même au vol (représentée schématiquement: Fig. 4b).

4. *ndaχ*, pointe de bois en forme d'un pommeau à bec; elle est massive et émoussée et sert à assommer de petits oiseaux et à les attraper vivants. (Fig. 4d.)

L'empennement est tangentiel et légèrement spiral; on se sert, pour empenner les flèches, de plumes de différents oiseaux: arraras (*ara*), gaviãos (divers falconides) urubus (*cathartes*), jaccu (*penelope*), etc.

Des plumes de reserve sont contenues dans un étui spécial tressé—*ndu—pɔ'*. Le chasseur a toujours, en outre, une provision de pointes en os et un faisceau de matériaux secs pour remplacer les hampes.

---

[12] Les Fuégiens et les Indiens de l'Amérique du Nord fixent leurs pointes de flèches en silex exactement de la même façon.

Les pointes en os ont encore une autre application; en cas de poursuite on les plante en terre sur le sentier et on les recouvre de feuilles afin qu'elles percent les pieds des ennemis.[13] J'ai décrit une application analogue des pointes de flèches chez les Botocudos dans mon article dans Yežegodnik Russkogo Antropologičeskogo Obchestva, 1916. On attrape des perroquets vivants à l'aide d'un engin qui porte le nom de *rərə*.[14] C'est une perche légère et tres longue, ressemblant à une canne à pèche, à laquelle on attache un perroquet apprivoisé appele ses confrères sauvages poussant des cris perçants. A l'extrémité de la "canne à pèche" se trouve un noeud coulant qu'on approche avec précaution des pattes de l'oiseau qui est venu s'y poser; puis on tourne brusquement la canne entre les mains et on attrape le perroquet par les pattes; ou bien on glisse le noeud coulant sur la tête d'un oiseau posé sur une branche. Hensel décrit une canne à pèche semblable dont se servent les Kaingangs méridionaux.[15]

Horta Barbosa raconte que les Kaingangs attrapent les tapirs avec de gros lassos d'écorce ou de lianes et j'ai pu voir un tel lasso dans la belle collection du musée de São Paulo: il ressemble au noeud coulant dont s'était servi un suicidé et que j'ai rapporté avec moi (voir plus loin). Outre les mammifères et les oiseaux, les Kaingangs mangent encore des lézards et des poissons. Ils pèchent les poissons à la main dans des lagunes à moitié désséchées ou dans des eaux tranquilles, ou bien encore ils tuent le poisson à l'arc, mais c'est probablement un gibier assez difficile et, pendant mon séjour, il n'y a pas eu de pèche.

Les larves bien grasses de scarabée de la fam. *Curculionidae* qui se trouvent dans les troncs pourris des palmiers ou des taquaras sont considérées comme une friandise; on les recueille avec soin et on les fait rôtir dans des tiges de bambou qui sont ensuite fendues; les larves rôties, semblables à des morceaux de lard roussi et croquantes sous la dent sont dévorées avec grand appétit.[16]

Le miel, le pollen, et les larves des abeilles sont un mets favori. Aujourd'hui qu'ils possèdent des haches, les Kaingangs abattent généralement l'arbre ou ils ont découvert une rûche, mais ils n'ont pas encore oublié leur ancien procédé qui consiste à grimper sur les arbres hauts. Ils se servent, dans ce but, de deux noeds en "cipo," l'un entrave les pieds et l'autre passe autour du tronc de l'arbre et le dos du grimpeur, sous les aisselles; en grimpant on remonte alternativement les deux noeuds le long du tronc. C'est par ce procédé que Rekankri a atteint en ma présence un nid de perroquet perché au sommet d'un arbre géant tout à fait lisse dans sa partie inférieure. On raconte (H. Barbosa) que les Kaingangs solitaires qui doivent passer la nuit dans la forêt grimpent au sommet des palmiers et s'enveloppent de leurs feuilles, formant autour d'eux une espèce de corbeille: ils se mettent ainsi à l'abri ayant peur des jaguars; je ne saurais juger de l'exactitude du fait. A l'occasion, on attrape beaucoup de gibier à la main avec une adresse incroyable. Pendant mon séjour Vakti avait attrapé ainsi une "nasua": l'ayant saisi par le queue il lui cogna la tête contre arbre; il faut remarquer que cet animal mord mieux qu'un chien et griffe mieux qu'un chat.

---

[13] Voir à ce sujet Santin, *ouvr. cité.*

[14] Je designe par *ə* un son guttural se rapprochant de la voyelle *a*.

[15] *Ouvr. cité,* p. 129.

[16] Strelnikov, I. D., *Les Kaa-ihwua du Paraguay,* 1926, la description d'élevage des larves.

En dehors de la chasse, les hommes doivent labourer la terre. Les Kaingangs cultivent une variété particulière de maïs au grain rouge foncé, quelquefois même violet clair. Vu que l'agriculture existe dans les villages les plus éloignés au fond des forêts, il n'y a pas lieu de supposer qu'elle ait été empruntée aux blancs. On laboure la terre avec un bâton dans les terrains défrichés; ce labeur est considéré comme tellement important que les malades eux-mêmes l'accomplissent. Gri, qui s'était cassé les deux jambes en tombant d'un arbre, cultivait, néanmoins, son champ en rampant. L'epithète de "fainéant" est très offensante. Le laboureur est considéré comme propriétaire du champ et ses droits sont strictement sauvegardés; les semis sont assimilés aux autres biens et, comme eux, sont détruits à la mort de la semeuse.

Le maïs est semé et récolté par les femmes; je n'ai jamais vu un homme cueillir un seul épi de maïs, et pourtant ils les chipent volontiers dans les paniers des femmes. Ces paniers sont en lames minces de bambou fendu; ils sont souvent ornés d'un dessin en degrés; pour l'obtenir on passe simplement des lames foncées entre les lames claires. D'après mon interprète c'est un ouvrage d'hommes. Il y a encore un autre genre de paniers tressées à larges mailles: ils servent au transport du gibier ou bien de cages pour les oiseaux pris vivants.

Les femmes fouillent la terre dans la forêt pour ramasser des patates (*kará*), des dioscorées, cueillent toutes sortes de fruits, récoltent enfin tous les comestibles du règne végétal.

X. PRÉPARATION DE LA NOURRITURE

Les aliments sont soigneusement bouillis ou cuits avant d'être consommés. Le sel est complètement inconnu. Le feu est entretenu par les femmes. On se sert d'un instrument particulier pour remuer le feu, pour y placer ou enlever la viande, les galettes, etc.: ce sont des pincettes (qu'ils appellent "des jambes de bois") faites de bâtons recourbés et aplatis au milieu. (Santin nous donne dans son ouvrage un dessin représentant des poincettes de ce genre en bambou.) Malgré la simplicité de cet instrument, je n'en ai rencontré de semblable chez aucune autre tribu, ni en ai-je entendu parler (voir la Fig. 4, *17*).

Les Kaingangs, comme je l'ai déjà dit, n'enlèvent pas la peau des bêtes; ils se contentent de griller les poils et rôtissent le gibier en entier. Pour les grosses pièces,—pour les tapirs, par exemple,—on emploie aussi le procédé suivant: on creuse une fosse et on y entretient un brasier jusqu'à ce que les parois soient surchauffées; ensuite on tapisse la fosse de feuilles et on y place la viande; puis on recouvre la fosse et on laisse mijoter la viande dans sa graisse. Quand on possède de telles quantités de viande qu'il est impossible de la manger d'un coup, on laisse pendre des morceaux au-dessus du brasier. Il arrive souvent de voir disposés ainsi des membres de singes ressemblant fort à des membres d'hommes. Ce mode de conservation de la viande est répandu, paraît-il, parmi tous les Indiens; c'est que ce les Brésiliens appellent, "moquear." Pour bouillir la nourriture soit au brasier soit à l'aide des tessons de terre glaise chauffés, on fait de pots. Ayant assisté à toutes les phases du métier, je le décrirai de façon assez detaillée. On apporte de loin la terre glaise d'un gris foncé enveloppée dans des feuilles et placée dans des paniers. Avec les mains, on la malaxe soigneusement avec de l'eau. Une vieille femme pétrit longuement un morceau de glaise et en fait une coupe dont les parois ont environ deux doigts d'épaisseur (Fig. 4, *1*). Ayant fait ensuite un rouleau de la même épaisseur, ressemblant un saucisson en argile elle l'applique au bord de la coupe tout autour, plutôt au côté intérieur. Le diamètre de cet anneau est un peu moins que celui des bords de la coupe. (Fig. 4, *2b*). Ensuite on frotte avec précaution en tournant la main à l'intérieur et en élargissant légèrement l'anneau; on colle en frottant en même temps la paroi extérieure, en allant de la base vers le bord (Fig. 4, *2b*). L'anneau suivant est placé de même manière sur le précédent, est également élargi par un frottement de la main à l'intérieur, collé par un frottement extérieur, et ainsi de suite: on emploie jusqu'à douze anneaux pour un pot de grandes dimensions. On obtient de cette façon un objet presque cylindrique à parois tres épaisses (Fig. 4, *3*). L'ouvrière le met alors de côté et commence un autre pot.

Après un certain temps on reprend de nouveau l'objet abandonné. On le lisse en tournant la main à l'intérieur et simultanément à l'extérieur en allant de la base vers bord; les parois s'amincissent graduellement et l'objet en s'élargissant prend une forme conique, de cylindrique qu'il était. (Fig. 4, *4*).

Dans sa “phase conique” l'objet est de nouveau mis de côté pour un certain temps. Ensuite, le travail est repris: on remet de nouveau le pot sur les genoux (Fig. 4, *7*), et, avec un éclat de bois ou avec une coquille on lisse soigneusement la surface extérieure avec un mouvement vers soi. On lèche l'éclat de bois; avec la bouche on asperge d'eau à l'extérieur tout en ajoutant de l'argile de seline; quelquefois l'éclat de bois est remplacé soit par épi de maïs, soit par une pierre, quelquefois même par une cuiller; une vieille avait obtenu à force de prières qu'on lui donnât, spécialement pour ce travail, une cuiller à soupe. Peu à peu le bord supérieur acquiert la forme nécessaire (Fig. 4, *5* et *6*); puis, quand il a durci sous les doigts, on bouche les crevasses du fond, on coupe la glaise superflue des places trop épaisses, et enfin, on lisse la surface avec une pierre ou bien avec un épi de maïs.

Le lendemain on polit le pot à plusieurs reprises jusqu'à ce qu'il devienne uni, brilliant et assez dur pour pouvoir conserver sa forme dans n'importe quelle position; enfin on le met sécher, tantôt à l'ombre, tantôt au soleil. Quand l'objet est bien sec, on l'emporte dans un endroit retiré et on procède à la cuisson. Le pot est tout simplement posé sur le sol et entouré de tous côtés d'éclats de bois. (Fig. 4, *8*). Il est chauffé au rouge et, fort souvent, se fend ce qui fait perdre le fruit du labeur patient de toute une journée. Quand le feu s'éteint, on asperge le pot d'eau mélangée de maïs pilé “afin qu'il soit incassable.” S'il y a des crevasses, on les bouche avec de la cire pendant que le pot est encore chaud. Une telle cuisson est extrêmement imparfaite: les tessons des pots très épais des Kaingangs montrent qu'il reste toujours, au milieu, une couche fort épaisse de glaise qui n'est pas cuite. Aussi la vaisselle manque-t-elle de solidité: elle doit être maniée avec beaucoup de prudence. Le moment le plus critique de l'opération est la cuisson. La présence d'une personne étrangère peut tout gâter; c'est ainsi que ma présence fut la cause qu'un gros pot qu'était en train de fabriquer la vieille Kukri se fendit: d'où indignation sans bornes de l'ouvrière.

Outre les gros pots (*kukrú*) on fait aussi avec de la terre glaise des coupes à boire (*pɛtkɪ*) à parois plus fines; ces dernières demandent moins de travail et de temps. Elles ont la forme d'un tronc de cone renversé; le fond est convexe. (Fig. 4, *18*).

Santin, dans son ouvrage, donne des dessins de pots d'une forme différente—avec une espèce d'excroissance sphérique à l'extremité inférieure;—les Indiens n'avaient pas de ces pots à la "Villa Kaingang."

Pour piler le maïs on se sert de mortiers; les femmes fabriquent ces mortiers en introduisant des tisons et des charbons ardents dans le creux d'une bille de bois posée verticalement et en calcinant ainsi l'intérieur. (Fig. 4, *9*.) Ces mortiers sont de dimensions fort variables: il y en a d'énormes, touchant en hauteur jusqu'à la ceinture; d'autres, au contraire, sont tout petits, comme ceux, par exemple, qui servent à piler le charbon entrant dans la composition des couleurs. Les grands mortiers ne sont pas emportés, naturellement, pendant les migrations.

Les pilons sont simplement des massues d'un bois dur; elles sont parfois fort longues. Les grains de maïs, une fois pilés, sont mis dans de l'eau ou on les laisse aigrir; puis on les enveloppe de feuilles et on les fait cuire. Ces galettes insipides sont absolument sans levain et extrèmement aigres.

XI. Le Mariage, ses Conditions Sociales

La question d'alimentation est beaucoup plus difficile et plus compliquée que chez les Botocudos[17] primitifs; telle est aussi, par suite, la question de réglementation du mariage et de la multiplication. Le mariage est précoce pour la fiancée et tardif pour le fiancé. Des jeunes hommes, adultes depuis longtemps, longtemps, restent célibataires, comme, par exemple, à la villa Kaingang, Lakri et Vakti, a qui le célibat pesait beaucoup. Le mariage se conclut toujours par suite d'une initiative étrangère: pendant une assemblée générale, à l'époque des fêtes par exemple, deux vieillards quelconques s'approchant des jeunes gens par derrière, saisissent dans leurs bras l'un la fiancée, l'autre le fiancé et les poussent l'un vers l'autre au milieu de la société. La fiancée se plaint, résiste, finit par s'asseoir par terre. Dans le cas qu'il m'a été donné d'observer, c'était une vénérable veuve de 35 à 40 ans. Les assistants prennent une part active à la cérémonie et y aident de leur mieux; les femmes accablent sans cesse la fiancée de leurs exhortations. Quand on réussit enfin à réunir les fiancés, ils restent quelque temps assis en face l'un de l'autre, leurs genoux se touchant. Ensuite les mêmes personnages trainent le nouveau couple dans la hutte du fiancé; là, on les couche sur le sol, on les couvre d'une seule couverture: la cérémonie est terminée.

Après le mariage auquel j'ai assisté, la jeune mariée a quitté son mari, le lendemain même de la cérémonie, et s'est enfuie dans un village voisin; mais, rattrapée bientôt, elle fut ramenée "en laisse," les mains liées derrière le dos. Et ceci s'est répété à plusieurs reprises: quelquefois on la trainait par les cheveux, d'autres fois on la portait garrottée dans les bras, etc. On finit, du reste, par la laisser tranquille, à son grand dépit, semblerait-il, car, à la fête suivante, elle chantait: "Voici qu'on va me lier et me conduire a mon mari." Mais personne ne l'écoutait plus, et force lui fut d'en prendre son part.

---

[17] Voir mon article sur Les "Botocudos," observations, etc., dans les *Annales de la Société Anthropologique russe*, 1916.

Les individus actifs, énergiques, populaires, les bons chasseurs, possèdent parfois chacun deux femmes, quelquefois plus. Je n'ai pas eu l'occasion de voir personnellement plus de deux femmes à un mari, mais on m'a dit, au poste, qu'on connaissait des cas de quatre femmes. Devant moi un mari a épousé en qualité de seconde femme, la soeur cadette de sa première femme, mais je ne saurais dire si c'est là une règle obligatoire (voir un cas semblable chez les Botocudos: les deux femmes de Mouni).

Les trahisons des femme et des maris donnent lieu à des querelles, des disputes et même à des batailles sans fin. J'en ai été témoin maintes fois. Une fois par exemple, le mari chassa, avec ses enfants, la femme qui l'avait trompé, après l'avoir battue; le frère se lance à sa poursuite, la traine chez lui par les cheveux; elle vécut quelque temps avec lui, puis elle alla cohabiter avec un autre. Le plus souvent les femmes en veulent à leur mari de les tromper avec la cousine (*kaikɛ́*). Le mariage avec une cousine est interdit, mais cette cousins habite avec son cousin, et à ses frais, jusqu'à son propre mariage. Le cousin prend soin de sa parente, et, le plus souvent, il y a entre eux une liaison qui doit, néanmoins, rester secrète. Dans ces conditions la femme légitime et ses enfants ne jouent plus qu'un rôle de second plan, et cela dure jusqu'à ce que la *kaikɛ́* devienne enceinte. Dans ce cas on a recours à un avortement qui amène souvent la mort de la jeune fille. (Ceci d'après les renseignements de l'Inspection qu'il ne m'a pas été donné de vérifier.) Il est curieux de noter que Santin (*ouvr. cité*) trouva dans un camp abandonné une femme malade précisément à la suite d'une fausse couche.

Par le fait de ces relations le cousin s'oppose, de toutes ses forces, au mariage de la *kaikɛ́*. J'ai été témoin d'une longue tragicomédie de ce genre. Rẽrɪg, s'efforçait de retenir chez lui *kaikɛ́*; il délaissait sa femme dont il avait déja trois enfants, mais la cousine en avait assez de son cousin, et à plusieurs reprises, s'était enfuie chez sa tante dans un village voisin. Le cousin la ramenait à la maison la portant dans ses bras, la trainait par les cheveux, la garrottait; elle pleurait, résistait, se debattait de son mieux, se couchait par terre, etc. Elle finit par trouver un défenseur, *vakti*, celui-ci manqua de se battre avec Rẽrɪg, se mit à crier contre lui avec une fureur imagée et garda la fuyarde chez lui. Alors le cousin offensé eut recours au moyen extrême: il simula le suicide, mais celà n'arrangea rien, et sa *kaikɛ̀* ne revint pas chez lui. Le noeud coulant préparé dans ce but par Rẽrɪg se trouve actuellement dans les collections de L'Académie des Sciences U. S. S. R. Les suicides causés par des malentendus de famille sont chose très fréquente. J'en connais plusieurs exemples: c'est Cagndirɪ qui tente sans succès de se pendre parce que son mari l'a chassée pour trahison; c'est la jeune *vangrikùiɪ*χ qui essaye, infructueusement également, de se pendre parce que son mari voulait, paraît-il, l'abandonner. Mais il y a aussi la femme de Naχɔ qui, elle, s'est bel et bien pendue à cause de quelque histoire avec le frère de son mari, un tout jeune garçon; il y a encore le fils du vieux Karɛ̀gɛ qui s'est suicidé par pendaison après une dispute avec sa femme; celle-ci n'avait pas voulu manger du palmito (choux-palmiste) que son mari avait rapporté de la forêt. Il y eut encore d'autres cas de suicide pendant les deux années que les Kaingangs se trouvent sous la surveillance de l'Inspection.

Il semble que cette coutume se trouve en rapport avec la crainte du défunt si répandus parmi les Indiens, avec leur croyance que c'est surtout après la mort que l'homme devient dangereux pour ceux qui l'ont offensé. Ce qui paraîtrait corroborer cette opinion ce sont les paroles d'un vieillard qui, sur son lit de mort, menaçait de se venger de ses ennemis; (ceci avait eu lieu au début de la pacification et m'a été rapporté par l'administration de poste.)

S'il en est ainsi, on s'explique aisément les efforts que mettent en oeuvre tous les habitants pour prévenir un suicide: l'intérêt general exige qu'il ne soit pas achevé.

Le plus souvent le suicide quitte furtivement son foyer la nuit et va se pendre dans la forêt à l'aide d'un noeud coulant en écorce. Aussitôt que son absence est constatée, l'alarme est donnée et tous se précipitent brandissant des tisons et des feuilles de palmier enflammés, à la poursuite du fuyard. J'ai pris part moi-même deux fois à des recherches de ce genre: c'était un tableau tout à fait fantastique; du reste, ces deux fois-là, tout s'est bien terminé. Ce Re͠rıg dont j'ai raconté l'histoire, fit pendant les recherches dont il était l'objet, sa réapparition d'une façon aussi inattendue que sa disparition: son noeud coulant au cou et dans un prétendu état d'évanouissement; c'est du moins, ce que racontait son affectueuse mère qui s'efforçait de convaincre tout le monde que c'était dans cet état qu'il avait été découvert dans la forêt par un des ouvriers; or c'était là un mensonge flagrant. Il arriva, une autre fois, que l'interprète décrocha une femme qui s'était pendue; l'arbre se balançait encore quand on vint sur les lieux. Les jambes de la suicidée étaient pliées aux genoux et liées—comme c'est la coutume pour les morts; je ne m'explique pas comment celà s'éxécute.

Les querelles de famille amènent aussi des rixes et même de véritables combats entre les partisans de deux camps opposés.

Ce sont d'abord des potins interminables, d'incéssants cancans auxquels le beau sexe prend une part particulièrement active; puis, l'affaire prend une tournure plus sérieuse. Un mari trompé, ou quelque autre personnage mécontent, se monte peu à peu la tête; le bruit se répand parmi la population qu'un tel "se fâche" (le mécontent, c'est le "*toiɔ*"), et on attend les événements.

J'ai vu à différentes reprises trois ou quatre des membres les plus influents de la communauté dans cet état d'irritation. Naturellement, l'offensé, de même que l'offenseur, a ses partisans; les jeunes gens servent d'intermédiaires et transmettent à qui de droit tout ce qui se dit et tout ce qui se fait. Et, enfin, l'orage s'éclate. Assis dans un endroit bien en vue, soit debout devant sa maison, "le mécontent" commence à hurler ses griefs. Ses yeux sont fixés dans l'espace ou roulés furieusement: le monde n'existe plus pour lui. Sa voix s'altère étrangement: il émet des paroles saccadées d'une sonorité impressionnante; on ne reconnait plus du tout le Kaingang d'ordinaire si peu bavard, si taciturne même. Son discours est une énumeration des défauts de son ennemi: c'est, d'après lui, un fainéant, un poltron; il mange beaucoup et ne fait rien; il ne sait pas chasser; il n'est pas capable de chanter,—lui; ce n'est pas comme l'orateur lui-même! (là-dessus, pour appuyer son affirmation, le mécontent y va de sa petite chanson) ce sont, ensuite, des menaces: il va, par example, lui briser ses pots! Muets, figés comme des statues, les assistants sont tout attention: ils écoutent avidement les paroles du *toiɔ̃*. Le bruit de l'événement se repand, naturellement, aussitôt dans le camp opposé, et là se déroule une scène analogue. Tous les conseils, toutes les exhortations sont inutiles; il n'y a aucun moyen de détourner le cours des pensées du "mécontent" ni de calmer ses exclamations. Finalement, quand le *toiɔ̃* s'est suffisamment échauffé, il saisit un énorme gourdin et se précipite vers l'habitation de son ennemi. (Ces "préliminaires" ont duré une fois toute une nuit; personne n'a dormi de la nuit et les brasiers ont flambé tout le temps.) L'offensé est suivi de ses partisans armés également de gourdins ou leurs arcs monstrueux. Les autres les attendent avec les mêmes armes; celles-ci servent aussi bien à parer les coups qu'à attaquer. Ces gourdins ont une longueur de deux mètres et plus; les blancs ont eu l'occasion de faire connaissance de cette terrible arme qu'ils désignent sous le nom de "guaratan."[17a]

Des deux côtés des partenaires viennent prendre part à l'affaire; quant aux femmes, elles sont, bien entendu, présentes et répètent avec plaisir: "Celà valait vraiment la peine d'être vu!" L'époque des querelles correspond à celle de la maturité du maïs: tous se réunissent alors dans leurs champs: on organise des offices des morts, des fêtes auxquellas prend part toute la population. En hiver les Indiens s'éparpillent dans la forêt et il y a, par conséquent, bien moins de causes de rixes.

Les couches des Indiennes semblent être faciles; s'il lui arrive d'accoucher pendant un voyage, la mère est capable de continuer sa route le jour même, portant son enfant. Immédiatement après la naissance, les femmes tirent les paupières de nouveau-né "afin qu'il voie," lui soufflent dans les yeux, dans les oreilles et, avec leurs mains, lui pressent les tempes et la tête d'avant en arrière.

Le nouveau-né ne doit pas rencontrer le regard d'une personne étrangère; si celà eut lieu, comme c'est arrivé devant moi, il est nécéssaire de remplacer le nom qui lui a été donné par un autre.

Les Indiens ont une affection remarquable pour les enfants. Je n'ai jamais vu qu'ils les battent; ils prennent même fort à coeur les disputes entre enfants, ce qui amène quelquefois des interventions tout a fait sérieuses.

On dit que les Kaingangs rapportent à la maison les têtes des ennemis tués pour les montrer aux enfants et les delivrer ainsi de la crainte éternelle de l'ennemi. Les enfants ont maintes fois rendu service à l'Inspection en obligeant leurs parents à rester au poste et ne pas s'en aller dans la forêt; les petits se sentent particulièrement bien au poste; on les gâte; il n'y a pas d'humidité; les toits ne laissent pas filtrer la pluie; la nourriture est toujours prête et ils s'y sont déjà habitués.

Les orphelins habitent généralement chez des parents; ils sont astreints à une certaine soumission, mais il ne peut être question d'esclavage.

XII. Maladies, Decès, Obseques

Pendant mon séjour au poste, un Indien marié, Dovari, tomba malade et mourut. Je décrirai sa mort et son enterrement et je complèterai les informations sur ce sujet par les renseignements et les observations que j'ai recueillis.

[17a] Comme je l'ai dit plus haut, un groupe d'ouvriers fut massacré en 1911. J'ai rapporté pour le Musée de l'Académie des Sciences un "guaratan" Kaingang trouvé sur le lieu même du combat et portant encore des traces de sang coagulé.

Le 18 Décembre 1914 eut lieu la grande fête Kiki. La boisson préparée à cette occasion était forte abondante et beaucoup d'Indiens avaient tellement bu qu'ils s'évanouissaient, le ventre gonflé de façon invraisemblable. Deux d'entre eux furent incapables de se lever le lendemain. J'allai voir Dovari dans sa hutte: son ventre démesurément gonflé était fortement serré par des bandages d'écorce de phyllodendron (cipo imbé). Sa femme lui massait énergiquemente les bras et les épaules. Le directeur du poste le frictionnait avec une médecine. Le jour suivant le malade avait sur la jambe des traces de sang frais; sa femme lui avait fait une saignée. Encore un jour après, la hutte du malade etait vide: Dovari avait été trainé dans la forêt. Là il était couché par terre, la respiration difficile, roulant les yeux; sa femme était assise à côté de lui en proie d'une douleur sincère; tout en larmes elle entretenait le feu allumé à la hâte et ne cessait de frictionner le malade. Tous les habitants étaient fort émus; ils entouraient le malade avec nous mais refusaient catégoriquement de lui administrer les médicaments proposés: "Il mourra," disaient-ils. Le moribond ne mangea rien pendant sa maladie et maigrit considérablement; pourtant, avec l'aide de sa femme, il allait se baigner dans la rivière et, devant le brasier, se versait de l'eau froide sur le corps. Le directeur déconseillait ces bains et ces douches, mais ses paroles n'avaient pas de succès: les assistants baissaient les yeux à terre, l'air méfiant. Quant au directeur, il n'osait prendre sur lui d'obliger le malade à avaler quelque médecine; il avait déjà eu des expériences de ce genre et ne voulait pas risquer sa responsabilité en cas d'issue fatale.

Dovari mourut le 24 Décembre. On courut aussitôt annoncer la nouvelle à ceux des Indiens qui travaillaient dans les champs. Ceux-ci revinrent au village au pas acceléré. Quand j'arrivais à la Villa Sophia, l'air rétentissait de gémissements terribles; on les entendait de fort loin. Le cadavre etait étendu sur le dos dans sa hutte; les jambes étaient pliés aux genoux et liées; les yeux grand-ouverts; on avait entièrement recouvert le défunt d'un drap emprunté au directeur. Des deux côtés du mort étaient assis, face l'un à l'autre, *Vauvĩ* et *Naχɔ́*; ils ne cessaient d'agiter leurs grelots et, à tour de rôle, poussaient des cris: "*χɔgn, χɔgn, χɪttjɔ́, χɪttjɔ́ . . . χugrú, χugrú . . . ignjɔ́, ignjɔ́ . . . χaχnũ̆u, χaχnũ̆u, . . . vɛdnũ̆u, vɛdnũ̆u, . . . χɛia, χɛia . . . χɪgmɪ χɪgmɪ*" . . . ; puis encore: "*χɔgn, χɔgn,*" etc. A côté d'eux, debout ou assis, dans différentes poses, sont groupés encore quelques hommes qui s'écrient lugubrement: "*i-i:-tɔ: jú-χú:-χu:χu:jɔ;, ɔ-ri:-mɔ:-kɛ́, jú-χú:-χú:-ja, jɔ-gí:-í:-í, χɔ̋-χá:-mœ:-ɔnɛ-jɪ, jud-wɛ:-rœnnɔ-ɪ:.*"

L'un d'eux, accroupi, se penche de temps en temps vers le défunt et lui souffle dans l'oreille gauche. Près de la hutte, git dans une mare de sang le petit chien du défunt: on vient de l'abattre.

Un faisceau de roseaux réservés pour les flèches et le manche de la houe du mort finissent de se consumer dans un brasier; dans un autre on a jeté son grand panier. Un petit panier et l'étui à flèches (*ndu-pɔ́*) se trouvent par terre à côté du cadavre, ainsi que les tessons de la vaisselle en terre glaise brisée en mille morceaux.

Dans la hutte voisine est couché un parent du défunt, le vieil Indien Karέgɛ; il s'est couvert la tête et pousse des gémissement sonores. De pareils gémissements rétentissent dans les huttes des autres parents. La veuve, abattue par la douleur, se tient à l'extremité opposée du village et ne s'approche pas du cadavre; on entend seulement ses sanglots qui n'ont absolument rien de rituel.

Mais voici qu'on amène encore un autre parent de la Villa Kaingang; on le conduit par la main; il ne peut marcher de lui-même, car sa tête est enveloppée d'une couverture; il s'avance à tatons comme un aveugle et pousse des gémissements d'une voix sauvage. J'ai peine à reconnaître le joyeux Kambrii. On le conduit près du mort, puis, immédiatement, on l'emmenne sans enlever sa couverture. Quant aux voisins, ils rassemblent en hâte leurs frusquins et se retirent dans le forêt à trois cents pas environ du village abandonné.

Les proches, abîmés dans leur douleur, sont absorbés par leurs gémissements; quant aux autres Indiens, ils ont fort à faire: sur eux repose le soin de l'éxécution des rites et des obsèques.

Aux deux individus qui se tiennent accroupis près du cadavre viennent s'adjoindre deux autres, munis de crécelles. Puis, ils se lèvent, et, tout en continuant leur chant ils marchent autour du cadavre (dans le sens contraire des aiguilles d'une montre). Aux cris éjaculés à tour de rôle succède un discours modulé pendant que les assistants continuent à gémir leur mélodie lugubre. On tourne en file à plusieurs reprises. Les chants cessent enfin. On lie les mains du défunt et on l'enveloppe très-serré. On lui met au cou son collier; tous se menus ustensiles sont emballés dans un panier et dans le *ndupó*. Un grand noeud coulant très large en écorce est apporté de la forêt: on y introduit les genoux puis on le fait passer sous la nuque; le corps est lié au milieu, a la hauteur du diaphragme, par une seconde corde en écorce: le corps est fortement serré (Fig. 5). *Naχó* charge le cadavre sur son dos,—dos à dos,—soutenant de son front le noeud coulant. Tout courbé sous son fardeau, sans cesser de moduler son chant rituel, il disparait à pas rapides dans la forêt: il prend le sentier qui conduit au cimetière (schéma, Fig. 5). Les autres saisissent leurs frusquins et leurs provisions de bouche et le suivent,—des hommes et des femmes.

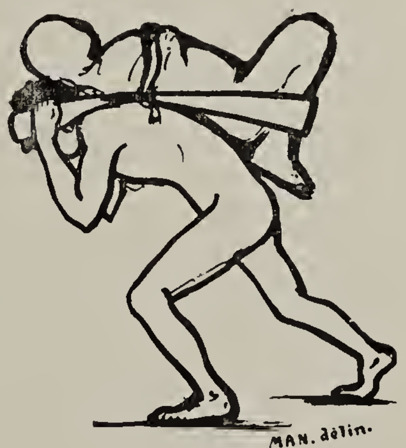


FIG. 5

Après quelques centaines de pas, les chants cessent. Les porteurs se relaient à plusieurs reprises; parfois ce sont les femmes qui traînent le cadavre. Il y a environ une demi-heure de marche jusqu'au cimetière.

A en juger par les souches le cimetière a été établi sur l'emplacement d'un bois de palmiers, au milieu de la forêt. Tout, autour, a été déblayé; les troncs d'arbres et les branches ont été transportés à la lisière; au centre s'élèvent deux hauts monticules (tumulus) remblayés, en terre rouge, entourés de fossés à parois verticales (Fig. 1, *1*).

Il ne faut guère plus d'une demi-heure pour que les assistants se construisent des huttes pour eux-mêmes et une pour le défunt: on l'y place; autour de lui sont disposés tous ses ustensiles (armes, paniers, etc.). Les femmes, aussitôt, allument des brasiers et se mettent à faire cuire le maïs et les citrouilles apportés avec soi. Deux hommes commencent à creuser une fossé: dans ce but ils enlèvent une partie de la surface du tumulus, (au midi); les autres disparaissent dans la forêt et, bientôt, on entend le son des haches avec lesquelles ils abatent les palmiers. Ils mésurent, à l’aide d’une perche prise avec soi, des billes de la longueur nécessaire sur les troncs abattus; ces billes (d’une longueur d’environ trois mètres) sont apportées, au fur et à mesure au cimetière.

Quand la fossé a atteint une profondeur telle que son bord dépasse d’environ 75 centimètres la tête des fossoyeurs, ils abandonnent leur travail et remontent à la surface à l’aide d’une perche inclinée. On jette alors dans la fossé des amas de broussailles et de feuilles de palmier embrasées; les flammes drues lèchent les parois de la fossé. Quand la fossé s’est quelque peu refroidie, les ouvriers y redescendent, enlèvent la suie et le charbon, nettoient et égalisent soigneusement le fond. Pendant ce temps les autres sont occupés à la préparation des pieux qui serviront à tapisser la fossé. On fend les billes de palmier en quatre, en longueur, tout la partie centrale du bois est enlevée, de sorte que l’on obtient finalement des morceaux plats assez semblables à des planches. Une des éxtrémités de ces planches est rendu aigue (Fig. 1, *4*). On procède alors à la construction du logement destiné au défunt. Les planches, plantées comme des pieux le long des parois de la fossé, sont enfoncées à l’aide d’une lourde poutre (principe du levier du second genre, voir la Fig. 1, *4*). On place le côté extérieur couvert d’écorce en dedans; la côté intérieur est collé contre la paroi de la fossé. Les planches enfoncées forment une palissade compacte qui tapisse toute la fossé. Sur deux billots posés transversalement est disposé en long un plancher, fait encore des mêmes matériaux, l’écorce en haut. Sur ce plancher sont placées. en long et en large, des feuilles de palmier. Elles ont été préalablement préparées de la même façon que pour la couverture des huttes, procédé décrit plus haut (voir Fig. 1, *7*) ; les pédoncules sont disposés vers l’extérieur et la frange vers l’intérieur, ce qui fournit une litière très molle. C’est sur cette litière que l’on dépose avec précaution le défunt; jusque-là il avait été couché à une certaine distance. Là il est débarrassé de ses liens et ceux-ci sont rejetés hors de la fossé. La fossé n’est pas assez longue pour que l’on puisse étirer les jambes; aussi le corps conserve-t-il la pose qu’on lui avait donnée: il est couché sur le dos, les genoux relevés, puis récouvert d’une couverture; (pendant sa maladie, je n’ai pas remarqué que Dovari ait jamais été couvert) ; près de la tête sont disposés les ustensiles du mort: son panier, sa hache, sa bouteille; on plante dans la fossé ses flèches et ses deux arcs, de taille différente; puis on place sur un baton son chapeau de feutre (donné par le gouvernement) ; le *ndupõ,* rempli de menus objets est suspendu sur une corde en haut, au dessus de la tête (voir la coupe de la fossé Fig. 1, *5*). La fossé est enfin comblée, par-dessus on roule en long des poutres entières de palmier sans laisser, autant que possible, de fentes entre elles et on achève la toiture en étalant transversalement, comme des tuiles, des franges de feuilles de palmier préparées de même que pour les toits des huttes. Cette toiture compacte est récouverte de terre. On la prend à une certaine distance de l’ancien fossé qui, en cet endroit, est également comblé; un nouveau fossé est creusé un peu plus loin vers l’extérieur.

La terre était lancée avec des beches, mais un des assistants creusait la terre à l’aide d’un baton et la jetait à pleines mains sur le monticule; et c’est certainement le vrai procédé, car les beches avaient été toutes fournies par le gouvernement.

Pendant tout ce travail on n'a rien chanté; les assistants avaient l'air gai et insouciant et si nous ajoutons qu'à la cérémonie prenaient part ''une femme à autrui'' avec son nouveau protecteur ainsi que *Rεrɪg* avec sa *kaikέ*, on comprendra que celà ressemblait fort à une partie de plaisir.

Les Indiens passèrent la nuit au cimetière; il est d'usage, le lendemain matin, de recouvrir encore une fois, la fossé de terre; ce travail est accompagné, cette fois-ci, de chants rituels; finalement tout le monde rentre à la maison.

Cette description d'enterrement est conformé aux récits des employés concernant les obsèques qu'il leur avait été donné d'observer auparavant.

Pendant l'enterrement les parents s'étaient rendus dans de champ du défunt, avaient coupé tout son maïs et l'avaient brulé.[18]

Quand ceux qui enterrèrent Dovari revinrent chez eux, ils ne trouvèrent plus personne au village de la Villa Sophia; tous avaient émigré dans la forêt voisine où ils habitaient des huttes nouvelles construites à la hâte. Quant à la veuve, elle était assise sous un hangar complètement vide: tous les objets qui constituaient sa propriété avaient été détruits.

Les Indiens revenus de l'entèrrement allument un brasier sur la place ou eut lieu la mort. Les femmes apportent du maïs et le cuissent dans des pots en y mettant des tessons de terre glaise chauffés au feu (c'est apparement un procédé rituel). Ils campent ainsi en cet endroit pendant trois jours entiers.

Les hommes se peintent des lignes noires sur la poitrine: d'après eux celà les preserve de la mort (voir plus haut). Pendant ces trois jours on ne mange que du maïs et du chou palmiste (la viande est prohibée); passé ce délai, on n'a plus rien à craindre et on rerevient aux domiciles habituels. C'est un usage répandu d'une façon générale chez les Indiens que l'abandon des habitations par crainte de la mort. J'ai visité un village abandonné dans ces conditions: il etait situé à quatre kilomètres de la Villa Kaingang. Je vis là, sur l'emplacement du décès, un monument funéraire original; c'était un pieu équarri orné de virgules semblables à celles que l'on se peint sur le corps pendant les offices des morts (Fig. 1, *6*).

Au musée de l'Académie des Sciences se trouvent dans la collection rapporté par Fritsch, des monuments des Kaingangs de l'Etat de Santa-Catharina: ce sont des pieux fichés dans le sol; leur sommet est fourchu et, dans cette fourche, sont attachées de pierres. Santin (*ouvr. cité*) parle d'un monument élevé la ''où mourut dans un combat un vieil Indien''; ce monument consistait en ''un morceau de bois vieux attaché à un arbre vert,'' mais il n'indique pas la source de ses renseignements.[19]

On peut admettre que ces ''monuments'' sont simplement des signaux servant à prevenir que ''l'endroit est dangereux.''

Les rites funéraires varient suivant l'importance du personnage défunt. Au dire des employés il est arrivé qu'on a enseveli des femmes n'importe où dans la terre (et non au cimetière) et ceci sans aucune cérémonie. D'après H. Barbosa les Kaingangs déposaient autrefois les têtes de leurs morts dans des urnes en terre glaise: ils auraient renoncé à ce rite funéraire parce qu'ils lui attribuaient la cause d'une augmentation de la mortalité parmi eux. Cette croyance aurait été découverte par hasard, durant une visite au Musée de São Paulo où se trouve une collection de ces urnes provenants de fouilles: les Indiens furent, paraît-il, fort effrayés. Je crains que ces renseignements ne proviennent d'une source peu sûre.

---

[18] J'ai pu noter une autre destruction semblable de maïs: Rekankri coupa, quand il fut mûr, le maïs qu'avait semé sa *Kaikέ* morte plusieurs mois auparavant; d'après lui ce maïs aurait causé la mort de tel parent qui aurait eu l'audace d'en manger. Il ne voyait pas, d'ailleurs, d'inconvenient a ce qu'il fut consommé par les blancs, quand on lui en fit la proposition.

[19] ''Un pezzetto di legno vecchio (sipó) attacato ad un albero verde, il quale indicava che ivi mori in battaglia un vecchio Indiano.''

Dans le Rio Grande, Hensel a fait des fouilles dans deux tombeaux Kaingangs. Tous les deux étaient peu profonds: ils n'avaient que deux à trois pieds. Le cadavre était enveloppé. Sur la tombe d'un personnage important le terre avait été tassée par les pieds des danseurs. D'après Hensel ce n'était qu'une tombe provisoire, dans le but d'attendre que la chair se fut détachée des os.[20]

Dans ma description de la maladie de Dovari, j'ai parlé des soins donnés aux malades: liens (bandages) serrés, saignées, aspersions d'eau froide, réchauffements devant un brasier. On voit constamment des Indiens qui ont soit la tête, soit le bras, soit la jambe bandés d'écorce de phillodendron, indice de maladie de tel ou tel membre. Ces bandages sont parfois extrêmement serrés: il arrive que, sur la poitrine ou sur le ventre, on fourre encore un épi de maïs sous les liens afin qu'ils serrent encore plus fort. Pour des longues marches les jambes sont entourées jusqu'aux hanches de tresses très serrées; les Indiens disent qu'ainsi la fatigue est moindre. (Wied a observé la même coutume chez les Botocudos et I. D. Strelnikov chez les Kaa-ihwuá du Paraguay dans le bassin de Monday.)[21] Le feu est d'un usage fréquent en qualité d'agent thérapeutique, plus particulièrement pour les blessures. Dova, pendant une rixe, eut la tête fortement blessée; il fut couché la tête auprès d'un brasier. Un autre Indien tenait pendant des jours entiers son doigt fracturé près du feu.

Le vieux Karɛgɛ soufflait sur son fils malade; d'autres employaient également ce moyen.

Quant aux causes des maladies et des décès, c'est le plus souvent, pour les Indiens, "l'inconnu," "l'inconcevable": c'est, par exemple, pour "avoir été photographié," ou bien c'est "la visite d'une mendiante négresse" qui était venue au poste, ou bien c'est simplement que "l'endroit est mauvais." J'ai déjà dit que "le rite funéraire" (des urnes) a été consideré également comme la cause d'une récrudescence de la mortalité.

XIII. COMMÉMORATION DES MORTS—FÊTE KIKI

La tombe n'est ni oublié ni délaissée: on y revient à des époques déterminées, afin de recouvrir à nouveau de terre le monticule (tumulus) dont la surface a pu être ravinée par les pluies. Pendant ces retours au cimetière on célèbre un service commémoratif aux rites compliqués—c'est la fête *Kiki*. Cette fête, de même que l'enterrement, est organisée par un des parents éloignés du défunt; on en agit de même à son égard quand lui-même ne peut, d'après la coutume, prendre une part active à la commémoration des siens.

---

[20] Cet ensevelissement provisoire peut avoir pour cause l'eloignement du cimetière et la nécessité d'attendre pour le transport que le cadavre soit devenu plus léger; ceci se pratique chez les Kadiuweos.

[21] Strelnikov, I. D., Les Kaa-ihwuá du Paraguay. *Atti del XXII Congresso Internazionale degli Americanisti*, Roma, 1928.

A proprement parler, *Kiki* est le nom par lequel on désigne le breuvage rituel préparé à cette occasion: *kiki-χadn* veut dire préparer la boisson et *kiki-koiu,* c'est l'acte même de boire. L'organisateur amasse préalablement beaucoup de miel conservé dans des pots de terre glaise ou dans des troncs d'arbres creux. On emploie, en outre, du miel, du maïs fermenté et des fleurs du palmier, *bocayuva.* Quand on a rassemblé suffisamment de matériaux, on amoncelle des quantités énormes de bois sec que l'on prend dans la forêt. Alors, tout près du village on construit une hutte dans laquelle on place les pots de miel et de maïs et ou s'installe la femme de l'organisateur ou bien quelque autre vieille; elle fait du feu et ne s'absente plus, veillant nuit et jour à la préparation du breuvage. Il reste, à partir de ce moment, trois jours jusqu'à la fête. Alors commencent, le soir et la nuit, les veillées accompagnées de chant autour des pots couverts de feuilles. Seules, les personnes absolument saines et bien portantes peuvent prendre part à ces chants; ne peut être admis tel qui souffrirait de la moindre maladie, n'aurait-il par exemple qu'une écharde.

Les chants sont une réédition des chants des morts: des personnages munis de crécelles modulent, assis, un motif rhythmique monotone; de temps à autre ils se mettent à marcher en file autour des pots et à pousser des cris tour a tour: ‘‘*χɔgn, χɔgn.* . . .,’’ etc. (voir la description de l'enterrement.) Autour d'eux les assistants traînent une mélodie lugubre, amplifiant les syllabes des mots; en même temps, retentissent dans les huttes voisines, les gémissements emphatiques des Indiens recouverts de leurs couvertures. Dans les ténèbres, sous la pluie, au milieu de la forêt, faiblement éclairée par les brasiers à demi-éteints, la scène est étrange et impressionante.

Ces trois jours écoulés, à la veille du *Kiki-koiu* même, l'organisateur accompagné de son aide se rend la nuit au cimetière afin de recouvrir la tombe de terre. La préparation du breuvage est achevée pendant la même nuit; la vieille qui avait surveillé la boisson durant tout ce temps procède alors à sa cuisson. Un énorme tronc de Jaracatia (*Carica dodecaphilla*) avait été apporté de la forêt la veille. Le bois de cet arbre est tellement mou qu'on le creuse sans peine à l'aide d'un pieu pointu. Dans ce but on enlève en long aussitôt que l'arbre a étè abattu, plusieurs lambeaux d'écorce d'une largeur de 12 centimètres. La pulpe blanche et molle du bois est creusée avec un bâton pointu et rejetée avec les mains. Puis on traîne vers la hutte le tronc d'arbre à moitié prêt à l'aide d'une longue corde de *cipo* (liane) fixée par un bâton passée au travers de la cavité creusée. On achève sur place la préparation du tronc d'arbre, puis on en brule l'intérieur en y introduisant des broussailles et des feuilles sèches enflammées. Ceci fait, on y verse le contenu des pots: du miel, de l'eau; on ajoute des fleurs de palmier et le maïs fermenté.

Pendant toute la nuit la vieille a fait bouillir le breuvage par portions; il est ensuite tenu chaud dans le tronc d'arbre à l'aide de tessons de vaisselle chauffés; (les tenailles décrites plus haut, *kapɛn,* sont ici fort utiles). La vieille est aidée dans son ouvrage par les enfants et les jeunes gens qui se sont installés pour la nuit autour du feu à côté du tronc d'arbre. Tout en versant et en mélangeant la boisson, la vieille ne cesse de chantonner.

Le breuvage est prêt le matin. Le tronc d'arbre est placé près de l'emplacement aplani au milieu duquel s'élève une vraie montagne de bois de chauffage; il y en a encore des provisions entassées tout autour. Alors les parents des morts redoublent leurs gémissements pendant que les autres mettent le feu au brasier, et armés de longs bâtons de bambou, s'assoient autour. En attendant le retour de ceux qui sont allés au cimetière on commence les chants sur un rhythme vif accompagné de bruit sonore des bambous frappés contre le sol. Un personnage influent quelconque conduit le choeur, hochant la tête an rhythme du chant. On ne fait absolument aucune attention aux spectateurs étrangers comme nous autres.

Enfin accourent des enfants qui annoncent que les Indiens allés au cimetière s'approchent; on entend leurs chants dans le forêt, mais ils ne font pas encore leur apparition: ils continuent à rester invisibles dans le lointain. Les femmes ordonnatrices se rendent alors dans les huttes où se trouvent les parents et les parentes des défunts: ceux-ci sont conduits, la tête couverte d'un voile et continuant à gémir, vers le brasier. Les femmes les font asseoir et leur donnent à boire du *kiki* auquel personne n'a encore touché, sans enlever leurs voiles et sans découvrir leurs visages. La coutume éxige qu'on les fait boire jusqu'à ce qu'ils ne se renversent, évanouis, sur le dos: et celà survient fort bientôt. Là-dessus on les prend dans les bras, et, le visage toujours couvert, on les dépose quelque part de côté, à l'ombre.

Quand tous les parents sont ainsi "à point" les enfants préparent à la hâte de la couleur noire en pilant dans un mortier du charbon avec du *kiki* et courent vers ceux qui se tiennent encore dans la forêt. Ceux-ci se badigeonnent le corps de virgules noires ou de lignes disposées sans aucun ordre (voir le dessin 3); alors seulement, ils font leur apparition autour du brasier. Ceux qui les attendent se sont également badigeonné le visage; ils reçoivent les nouveau-venus et leur souhaitent la bienvenue. Aussitôt plusieurs paires, placées vis-à-vis les unes des autres commencent a éjaculer tour a tour les cris de "*χɔgn, χɔgn* . . ." etc. (que nous connaissons déjà), au son des grelots. Les autres assistants chantent pendant ce temps leur mélodie lugubre (voir la description de "l'enterrement.) Tous se mettent à marcher ensuite autour du brasier (dans le sens inverse des aiguilles d'une montre); cette marche s'appelle *kɔ́ppɔ̆́d*. En marchant, ils relèvent haut la jambe, se penchant, à chaque pas, en arrière et en avant, et, au rhythme de leur chant, frappent le sol de leurs bambous. On commence en même temps a se régaler de *kiki*. Personne ne va puiser dans le tronc d'arbre pour boire lui-même, mais uniquement pour régaler un autre: celui-ci, aussitôt, lui rend la pareille. Ayant puisé avec un bol ou un morceau de bambou de la boisson en fermentation, le premier se dirige vers celui qu'il veut honorer de son attention: sa démarche est singulièrement solennelle; penchant étrangement la tête de côté, il tend le *kiki* vers la bouche de l'autre: celui-ci boit d'un trait et, à son tour, s'en va avec le même vase régaler le premier. Les chants ne cessent un seul instant. Les femmes aussi chantent mais elles ne se servent ni de grelots ni de batons de bambou; elles brandissent leurs bols et balancent leur torse en avant et en arrière. Çà et là deux hommes se placent vis à vis l'un de l'autre, leurs bambous sous le bras, ils s'inclinent l'un vers 'autre, se redressent, s'inclinent de nouveau; parfois, une dame quelconque vient se joindre à eux; on ne peut concevoir de mouvements plus étranges, plus absurdes à notre point de vue.

Les Kaingangs sont tellement absorbés par leur occupation que rien absolument ne saurait les en distraire. Ils ont dansé ainsi, une fois, devant moi, toute une nuit sous une pluie battante; tous avaient, naturellement, quitté leurs vêtements, ce qu'ils ne se décidaient pas à faire auparavant. Il faut dire aussi que les flammes du brasier donnent une chaleur presqu'-insupportable, ce qui contribue probablement pour une large part à l'état de demi-inconscience dans lequel se trouvent les buveurs. Par lui-même le *kiki* ne devrait pas etre très enivrant: c'est une liqueur aigrelette qui ne semble pas bien capiteuse; il est vrai, pourtant, qu'elle fermente tout le temps en émettant des bulles. A force de s'abreuver d'une façon excessive, quelques uns tombent épuisés, les ventres gonflés; leurs femmes s'approchent alors d'eux et leur pétrissent le ventre; on les voit bientôt se remettre dans les rangs et reprendre leurs chants et leurs libations.

Quant au sens des paroles proférées, il est, d'après mes conjectures, purement fortuit et improvisé; elles se rapportent quelquefois simplement a ce qui se passe alentour. L'interprète m'a dit que ce sont la des récits modulés concernant les derniers événements de la forêt: les chasses récentes, les rencontres, les insuccès. Parfois le chanteur dit ses plaintes et ses griefs; alors les chants aboutissent à des disputes et les querelleurs saisissent leurs terribles *guaratans;* quelquefois, au contraire, on fait la paix à l'occasion du *kiki.* On dit que les campagnes contre les blancs se décident également pendant ces fêtes. Je dois dire, à se sujet, que les attaques des Kaingangs sont accompagnées de chants; il existe, pour celà, des motifs spéciaux (voir les coutumes des Tcherkesses).

En dehors des fêtes *kiki* en commemoration des morts, j'ai été présent également à une fête *kiki* où les morts n'avaient rien à voir. On avait invité à cette fête des sauvages de la forêt qui ne pouvaient se décider à rester au poste. Ils arrivèrent, sonnant de leurs trompes creusées dans du bois de *jaracatia* (Fig. 4, *14*), le son de cet instrument (Santin en parle) seme la terreur parmi les colons brésiliens. Ils portaient, sur leurs épaules, des feuilles de palmier; des feuilles semblables avaient éte étalées autour d'un brasier. Les invités avaient commencé à chanter en route et c'est par des chants qu'ils furent reçus près du brasier en flammes. Ils chantèrent et burent du *kiki* pendant 15 heures de suite sans arrêter; puis ils retournèrent dans la forêt, n'ayant pour ainsi dire proféré une seule parole sans modulations.

D'après mon interprète c'est probablement des Kaingangs du Rio Grande que parle Hensel dans sa description de fêtes commemoratives. Le breuvage enivrant est, paraît-il, préparé là-bas avec du maïs mâché et les femmes n'en boivent pas; elles se contentent de veiller à l'ordre. Fritsch a rapporté des trompes en bambou qu'emploient, pendant les fêtes des morts, les Kaingangs Kamé.

XIV. NOTIONS SUR LES CROYANCES DES KAINGANGS

Une "explication" complète de tout ce qui touche à la mort, aux enterrements, aux fêtes commemoratives et à beaucoup d'autres événements de la vie des Kaingangs ne saurait être donnée qu-en se basant sur une connaissance détaillée de leur propre interpretation du sens de leurs actes. Or les renseignements dont je dispose à l'egard de leurs idées sur le sort de l'âme et sur l'essence même du trépas ne sont que partiels, malgré l'attention que j'ai donnée à ce sujet pendant mes rapports avec les Indiens.

Après la mort l'âme se transporte dans un monde souterrain—là où disparait le soleil au couchant, la d'où il apparait au lever; il fait jour là-bas quand c'est la nuit ici. Ce monde souterrain—c'est une immense forêt ou pullulent tapirs, biches, cochons sauvages et autres gibiers. La vie est meilleure là-bas que dans notre monde terrestre.

Il arrive pourtant de rencontrer une ame ici-bas,—elle revient parfois en ce monde. Les Indiens disent en avoir vu souvent. J'ai été témoin du fait suivant: de jeunes Indiens étaient alles chasser des cochons sauvages à l'affût; ils revinrent tout émus, disant qu'ils avaient vu plusieurs âmes et qu'ils n'avaient osé rester là-bas. Ces ames étaient assises sur le tronc d'un arbre abattu: elles disparurent pendant que le narrateur s'était retourné pour regarder un épervier posé sur une branche. Il arriva à une jenue femme nommée *Refıtf*ɪɪχ de visiter ce monde souterrain; une âme était venue la chercher pour la conduire là-bas. En général il n'est pas rare que les femmes voient des âmes la nuit.

Il est strictement défendu chez les Kaingangs de prononcer le nom d'une personne défunte; le personnel du poste a dû prendre l'habitude d'éviter de citer le nom d'un mort, voyant la grande importance que cela avait pour les Indiens. Au début de la pacification les employés étaient intrigués par l'expression indicible de trouble qu'ils voyaient se pendre sur le visage des Indiens quand un nom interdit était prononcé; il fallut les explications de l'interprète pour leur fair comprendre de quoi il s'agissait.

Il me semble que c'est *la crainte du défunt* qui rend comprehensibles les suicides (*tyaia-tyaia*), les migration après la mort, le soin des tombes, la destruction par le feu des objets ayant appartenu au mort, la différence des rites selon la position sociale du décédé (le sans-façon avec lequel on enterre les célibataires et les femme). Il est possible que la *Kiki*—cérémonie d'allégresse à l'occasion de la maturité de maïs—emprunte son caractère lugubra à la crainte qu'ont les Indiens de la jalousie et de la haine de ceux qui sont dans un autre monde. Il est possible aussi que les chants funèbres dont on accompagne la préparation du breuvage aient pour but de "destiner" cette boisson à ceux qui sont dans le monde souterrain. Les personnages qui, la veille de la fête, se rendent au cimetière, ne vont-ils pas inviter "les esprits" à prendre part à le fête? Les visages des parents du mort sont dissimulés avec soin au retour de ces visiteurs du cimetière; n'est-ce pas parce que "les esprits" sont venus assister à la fête?

Mais ce ne sont là que de simples conjectures; je ne dispose pas de preuves qui puissent les confirmer.[22]

Je n'ai pas remarqué que les Kaingangs emploient des procédés magiques dans le but d'influencer les éléments, à l'exception d'un seul qui consistait à chasser les nuages avec les mains. Afin de prevenir la pluie, la vieille qui apprétait le *kiki* se soufflait sur les doigts de la main droite réunis et les brandissait dans l'air vers les nuages, les tenant écartés comme pour disseminer son souffle. Des procédés semblables ont été observés avant moi.

---

[22] Hensel (*ouvr. cité*, p. 130) raconte que les Kaingangs prient aux étoiles (les designant sous le nom de *tupà*); ce n'est évidemment là que la répétition du récit de quelque Brésilien, récit qui n'a pas été contrôlé; la forme même paraît sujette à caution.

La théorie des rêves est restée inconnue pour moi ; j'ai appris seulement, par mon interprète, que, lorsque les Indiens tentent de deviner quel sera le résultat des chasses qu'ils vont entreprendre, ils prennent du maté (*congona*) la veille, éspérant que cette boisson les aidera à voir en rêve ce qui doit advenir. Santin parle, lui aussi, de l'usage du maté (*voir ouvr. cité*).

XV. RELATIONS DE SOCIABILITÉ, JEUX

On peut dire que le geste de négation n'existe pas chez les Kaingangs ; quand ils ne sont pas d'accord avec vous ou quand ils ne désirent pas quelque chose, ils expriment leur volonté par une immobilité indifférente. Pour exprimer l'affirmation ou l'assentiment c'est le geste suivant : ils levent les sourcils et hochent la tête en arrière. Ce geste est peut-être général chez les Indiens : je l'ai observé chez les Kadiuweos et chez les Botocudos : le Docteur Roquette-Pinto m'a décrit un geste similaire chez les Nhambiquaras.

Au point de vue de l'articulation et de la phonetique le langage des Kaingangs, par ses caractères positifs et négatifs, se rapproche de très pres du langage des Botocudos, beaucoup plus près que de n'importe quel autre langage Indien qu'il m'ait été donné d'entendre (*tereno, guaicuru, faia, guarani*). Cette similitude est particulièrement ostensible dans la prononciation de mots portugais par des individus de ces deux tribus. Leurs déformations sont souvent tout à fait analogues ; ils disent ainsi : *marantia* au lieu de *melancia, dyaner* au lieu de *Janeiro,* etc. Curieuse également est la coincidence de l'articulation de sifflement par la langue—à cet effet la langue est introduite en forme de cuiller entre les lèvres ; ce procédé est commun aux deux tribus.

Les Kaingangs se distinguent des Botocudos en ce qu'ils possèdent un son labial-dental ; c'est le *v* non différencié : *v* = *f* = *w*. Pour eux le *n* et le *d* coincident, de même que certains autres sons que nous distinguons entre eux ; les *l* et *ł* (qui existent chez les Kadiuweos) n'existent pas chez les Kaingangs, de même que les *s, š, č*.

Les lexiques nous fournissent quelques similitudes isolées (k. = *ĩ* ; b. = *krɛn*, la tête ; k. = *pĩ* ; b. = *pɛk*, le feu).

La négation se place derrière le mot auquel elle se rapporte.

On peut distinguer, dans le langage des Kaingangs, trois degrés d'articulation :—

1. Bavardage rapide à demi-voix (langage ordinaire) ; articulation faible et difficile à saisir.
2. Paroles des chants : articulation plus nette, mais deformée par les exigences du rhythme et de la mélodie.
3. Cris irrités : articulation extraordinairement forte et sonore, entrecoupée d'exclamations et de sons offensants de mépris et de mécontentement ; ceci rend les mots méconnaissables pour une oreille étrangère peu habituée à l'analyse ; souvent l'interprète ne les comprenait point.

Pour ce qui concerne spécialement la musique des Kaingangs, je renvoie le lecteur à mon article sur *La Musique et les Instruments Musicaux de Certaines Tribus Brésilienes.*"[23] (en russe)

---

[23] Paru dans le Récueil du Musée d'Ethnographie et d'Anthropologie de l'Académie des Sciences, vol. IV. Sbornik Muzeya Antropologii i Etnografii.

On trouvera là des photographies de leurs instruments musicaux. Le Fig. 4, *12–14,* représentent leur trompe (*busina*) en Jaracatia, leurs flageolets à resonateur et leur chalumeau de roseau.

On n'a pas réussi jusqu'à présent à faire raconter aux Kaingangs un de leurs *contes* quelconque, malgré les efforts faits dans ce sens par différentes personnes habitant le poste. Lucien Adam, dans l'article que j'ai cité plus haut, donne une traduction française d'une légende cosmogonique notée chez un des groupes méridionaux.

En ce qui concerne le *dessin,* les Kaingangs ont fait preuve de grand intérêt et d'une application soutenue dans leur désir de m'imiter. Ils commencent généralement, pour dessiner la figure d'un homme, par le visage; ils disposent les différentes parties du corps dans un certain ordre: les mains, les jambes, le corps, la barbe, los oreilles, les yeux sont pour eux des unités formelles; et les proportions ne sont pas gardées; tout ce qui a une dénomination et peut être analysé indépendamment de l'entité est representé indépendament du reste. Si, par exemple, un organe quelconque a été oublié et doit être ajouté au dessin terminé, ils le disposeront, quand on leur a signalé, à la place voulue mais sans observer les proportions: si ce sont, disons, les yeux, ils seront représentés dépassant de beaucoup les limites de la tête. Il a été remarqué, pendant des exercices de dessin, tout à fait spontanément, que les Indiens possèdent la faculté de tracer un semblant de carte: c'est, par exemple, la représentation de la disposition de deux villages et du chemin qui les relie.

Les Kaingangs emploient des signes de convention qui leur permettent, en dehors du langage, à correspondre entre eux dans la forêt. Ce sont différentes marques, divers objets symboliques qu'ils laissent dans les sentiers. En voici quelques exemples; ils m'ont été indiqués, pour la plupart, par l'ancien directeur du poste:—

1. Dans un endroit du sentier un certain espace a été aplani et là a été plantée une baguette indiquant la direction du rayon de soleil tombant sur cette place: celà sert à designer l'heure à laquelle l'indien qui a fait cette marque a passé à cet endroit.

2. Un fragment de ruche et une baguette avec un bout de cire indiquent la direction de l'endroit d'où le passant a extrait du miel.

3. Si le miel n'a pas encore été extrait, on laisse une baguette avec un brin de mousse; celà désigne la direction d'une ruche nouvellement découverte; (pour recueillir le miel des rayons, les Indiens emploient de la mousse en guise d'éponge).

4. Dova ayant pêché du poisson et ayant laissé sur sa route une partie de ce poisson destinée a son père avait planté en terre une série de baguettes: deux d'entre elles avaient été attachées entre elles par des liens: ces liens devaient indiquer que le poisson abandonné était la propriété de son père. (Ceci m'a été communiqué par l'employé José Candido Texeira.)

5. Des absents ont été invités à prendre part à la fête *Kiki* par une représentation en miniature de la mise en scène de cette fête: le brasier, les troncs d'arbre, les feuilles de palmier; les personnages étaient représentés par des bouts de bois entourés d'un chiffon. A l'époque de la première pacification les interprêtes de l'expédition gouvernementale laissaient dans la forêt des signaux de

ce genre afin d'inviter leurs congénères sauvages. Le directeur du "Serviço," le Docteur José Bezerra Cavalcanti, a eu l'obligeance de mettre à ma disposition une photographie représentant ce signal. On voit un petit tas de bâtonnets—c'est le brasier; un bout de bois creusé simule le tronc d'arbre; un morceau de bois recouvert d'un pagne—c'est une femme couchée; deux autres liés ensemble—un mariage (?) et, enfin, la carcasse d'une maison.

6. J'ai eu l'occasion de voir personellement un signe indiquant l'emplacement d'une chasse heureuse: les plumes d'un oiseau tué avaient été plantées en terre.

Les jeux et les récréations n'existent pas que pour les enfants: les grands y prennent souvent grand intérêt.

Les garçons font souvent, en plaisantant, de l'escrime avec de longs bâtons (*guaratan*), mais ils s'échauffent beaucoup à ce jeu; il dégénère fréquemment en rixe.

Les enfants s'exercent a chasser; ils possèdent, à cet effet, de petits arcs et des flèches; ils apprennent à modeler de la vaisselle, à tresser des paniers et des nattes et même à organiser des fêtes.

Il y a également des jeux et des jouets dénués de but pratique.

Les Kaingangs sont extraordinairement habiles à lancer des baguettes, des bouts de paille et des petites flèches d'enfant à l'aide de leur medius faisant ressort et tendu par l'autre main comme la corde d'un arc; la baguette répose par son extrémité sur le pli du coude et est dirigée par lui. (Fig. 4, *10.*)

C'est également avec une grande précision que les Indiens lancent des grains de maïs à l'aide de leur index faisant ressort; de l'index d'une main ils serrent le grain contre l'index de l'autre: celui-ci sert de détente, et le pouce augmente la tension "du ressort" (Fig. 4, *11*). J'ai observé exactment le même procédé de lancer des grains de maïs en manière de plaisanterie (et pourtant ils font assez mal en cinglant) chez les Botocudos à Pancas; il faut remarquer que ce jeu est complètement inconnu parmi les enfants brésiliens.

Il n'en est pas de même de la *peteca*; c'est un volant en feuilles de maïs; (Fritsch a rapporté un tel volant de chez les Kaingangs Kamé de l'Etat de Sta. Catharina; il se trouve à l'Académie des Sciences U. S. S. R.). Ce jouet est répandu dans tout le Brésil (il est même représenté dans les alphabets); il est possible qu'il ait été emprunté aux Neo-brésiliens. Quant à la toupie en cire, c'est bien un jouet tout à fait Kaingang. On fait une petite galette de cire noire de 4 cm. de diamètre et on passe au milieu un bâtonnet pointu, mince et long. On imprime un mouvement de rotation rapide en tournant la longue éxtrémité supérieure du bâtonnet entre les paumes des mains. Horta Bárbosa (*ouvr. cité*, p. 38) parle également de ces jouets dont j'ai rapporté plusieurs échantillons. J'ai déjà parlé, au sujet des ornements, des grelots faits d'éxtrémités de becs de toucan auxquels on adjoint des plumes de couleur éclatante du toucan; ils servent aussi de hochets aux enfants au sein.

En étudiant les Kaingangs on devra consacrer beaucoup d'efforts pour éclaircir leur *terminologie de la parenté;* elle est extremement embrouillée et rappelle en ceci la terminologie australienne: cette confusion est dûe à la prohibition du mariage entre personnes de certaine catégories.

UNE MOUSTIQUAIRE DES INDIENS GUATÓS (BRÉSIL)

Par Antonio Carlos Simoens da Silva

Le Matto-Grosse, de 1,516,000 kilometres carrés de superficie est le second Etat du Brésil en grandeur, plus grand que la France, l'Espagne, l'Italie, la Grèce, et la Bavière réunies, ou que l'ensemble de la Grande Bretagne, de l'Irlande, du Würtemberg, de la Turquie d'Europe, du Danemark, de la Suède, et de la Norvège, aussi grand que l'Autriche, la Hongrie, l'Allemagne et la Prusse réunies. Il touche aux Etats de l'Amazone, du Pará, de Goyaz, de Minas Géraes, de São Paulo, et du Paraná, et aux Républiques de Bolivie et du Paraguay, s'étendant entre 7° et 30′ et 24° et 10′ de latitude et 7° 25′ et 22° de longitude. Très riche dans les trois règnes naturels, jouissant d'un réseau immense de voies de communications fluviales, toutes les régions riveraines de ses fleuves et les plateaux de ses montagnes sont habités par de nombreuses tribus d'Indiens, de moeurs et de coutumes très différentes et parlant des dialectes très variés, dont la population totale a été estimée à environ un demi million d'individus.

Sans faire ici de références aux deux célèbres tribus, celle des guerriers Carijós, déjà complètement éteinte et celle des cavaliers Guaycurús, aujourd'hui prèsque disparue, ne comptant qu'un très petit nombre de membres dans la région de Bahia Negra, nous citerons spécialement les tribus suivantes:—

Les Nhambiquáras qui vivent dans la Serra do Norte; les Paricis habitant la Serra des Paricis; les Boróros des rives des Rios Araguaya et São Lourenço; les Cayabis, les Bakairis, les Tapayunas, les Cayapós, et les Apiacás, installés dans la vaste région traversée par le Rio Telles Pires; les Cabixis sur les bords des Rios Guaporé et Jaurú; les Terenos du bas Paraguay; les Cayuás du Rio Ivinhema; les Mundurucús du Rio Tapajoz; les Chiquitos des forêts du Rio Alegre; les Barbados du Haut Paraguay; les Caduvéos du Bas Paraguay et du Bas Paraná; et les Guatós des rives des Rios Cuyabá, São Lourenço, Jaurú et Cabaçal.

Ces tribus ont déjà été étudiées en partie, par la Commission Rondon, par l'Ethnographe du Matto-Grosso, le Docteur João Barboza de Faria, par le Professeur Docteur Edgard Roquette Pinto, par la Mission Salésienne, par les savants allemands Karl Von Den Steinen, Max Schmidt et par d'autres encore.

Les quatre grands fleuves sur les bords desquels les Indiens Guatós ont établi leur résidence, méritent une mention spéciale, par suite de leur importance économique pour l'Etat auquel ils appartiennent. Le Cuyabá sur les 872 kilomètres de son cours, en possède 436 de navigable, de la fosse du São Lourenço à la capitale de l'Etat; le São Lourenço long de 561 kilomètres est presque entièrement navigable; le cours du Jaurú est de 396 kilomètres et le Cabaçal, le plus court de tous, atteint seulement 250 kilomètres; tous sont affluents du Rio Paraguay et contribuent, par conséquent à former le grand bassin du Prata.

Les Guatós vivent complètement nus, toujours armés d'arcs et de flèches ainsi que peuvent le voir constamment les passagers des vapeurs voyageant sur ces fleuves et comme nous-même avons pu l'observer plusieurs fois. Ces Indiens s'alimentent de mammifères et d'oiseaux, qu'ils chassent avec un coup d'oeil admirable ainsi que de poissons et de tortues, qu'ils pêchent avec une adresse surprenante; et aussi des produits de leurs cultures très réduites de maïs et de manioc et, finalement, de miel d'abeilles, de côcos, de bananes et de fruits sauvages.

Tous sont d'habiles rameurs, nageant avec rapidité et une grande habilité, même dans les endroits où existent de grandes quantités de caimans, qu'ils chassent également pour en utiliser le cuir et les dents et dont ils mangent la chair, à défaut de meilleur aliment.

Les Guatós sont de grands danseurs, passant en certaines occasions des jours entiers à se divertir, avec des pas et des figures compliqués de gymnastique, qui constituent leur danse préférée, qu'ils appellent *Cururú.*

Leurs cabanes sont très simples et rustiques, formées d'un toit incliné sur deux faces, entièrement en paille de palmier et ouvertes tout autour.

Quoique indolents comme tous les nomades, ils fabriquent, avec un certain art, de grands et forts canots avec des troncs d'arbres; des arcs, des flèches et des lances, avec des ornements de paille tressée, parfaitement homogènes et symétriques; des vases et des pots rustiques de céramique, des instruments de musique, entre autres des tambours, des violes et des *réco-récos;* des cuillères, des massues, des pilons et d'autres pièces de bois; des nattes, des éventails, des corbeilles et d'autres objets de paille; enfin, certaine tissus de coton, filé par les Indiennes et diverses pièces de fibres de palmier, tels les supposés éventails dont ils se servent pour chasser les moustiques et qu'ils appellent *Makas* et les précieuses moustiquaires qu'ils désignent sur le nom de *Mageet',* généralement faites en fibres de Tucum (*Buctriz Setosa,* Martius), palmier assez commun de l'Amazone au Prata.

Le région habitée par les Guatós est absolument infestée de moustiques, véritable torture pour les Indiens, les obligeant à rechercher les moyens les plus pratiques pour se protéger de leurs piqûres. Non seulement quelques'uns d'entre eux se frottent le corps de diverses préparations à base de graisses et d'odeur désagréable, comme le font les Boróros, les Bakairis, et les Paricis, mais ils fabriquent aussi de très interessantes moustiquaires, dont le Musée Simoens da Silva, fondé, par nous et notre propriété particulière, possède un exemplaire en parfaite condition de conservation, et qui fait le sujet de cette communication.

La moustiquaire Guató est une pièce indispensable dans ces régions, non seulement pour nous, civilisés, mais aussi pour les pauvres Indiens, qui souffrent de terribles fièvres paludéennes transmises par les malfaisants moustiques, et qui sans ce moyen de protection et d'abri contre des ennemis, aussi insupportables et malfaisants que ces insectes, ne pourraient jouir du repos indispensable au milieu de leur vie nomade, remplie de fatigue constante.

La pièce en question, représentée par la photographie accompagnant ce mémoire est devenue très rare. (Fig. 1.)

Cette tribu d'Indiens du Matto-Grosso, qui s'éteint peu à peu, comme il arrive aux autres tribus du Brésil et des autres pays du Continent Américain, n'en fabrique plus actuellement.

Avant de décrire cette interessante pièce indigène brésilienne, nous citerons pour bien la caractériser, l'opinion précieuse du Docteur Max Schmidt, Di-

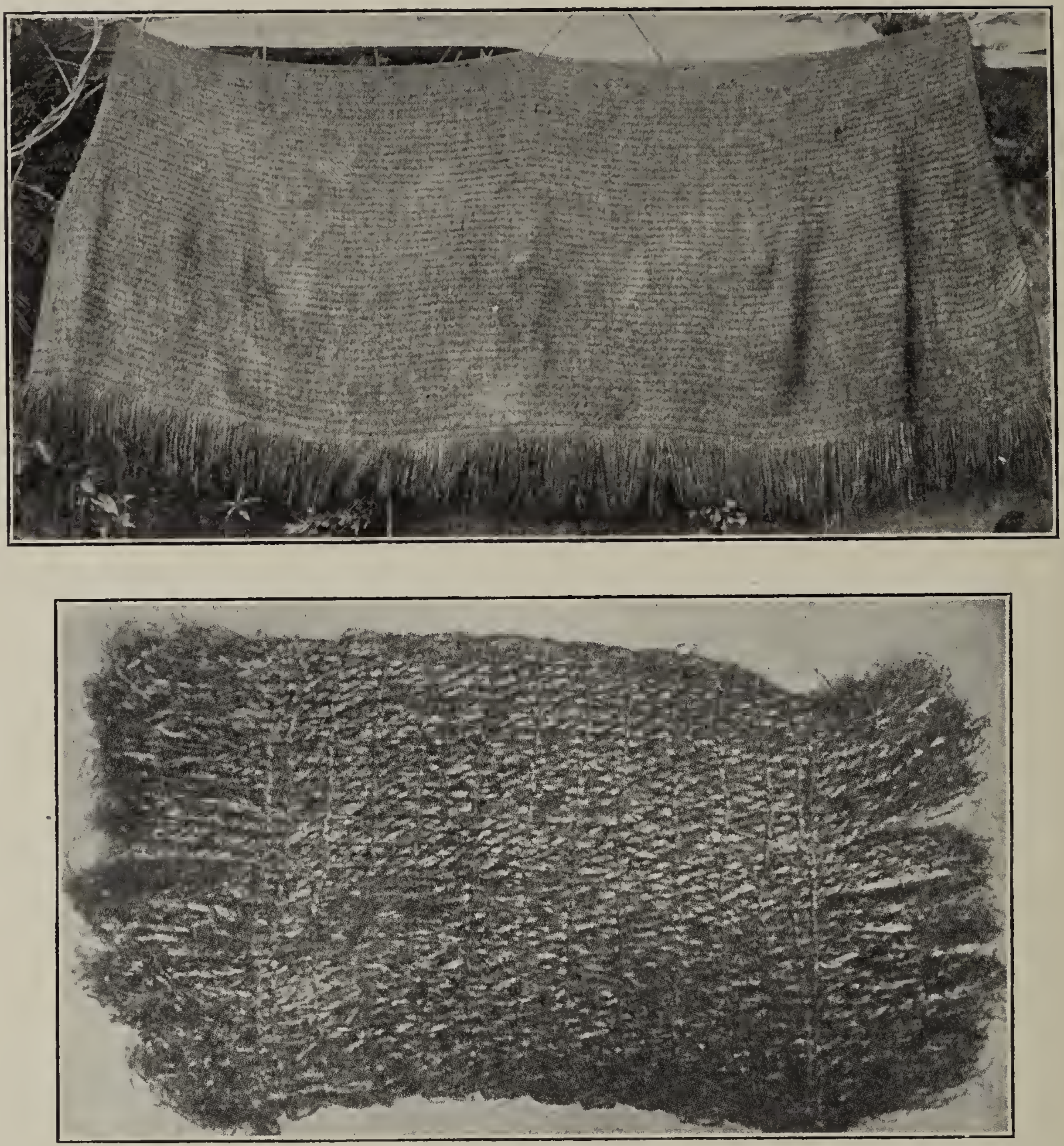


Fig. 1—MOUSTIQUAIRE DES INDIENS GRATÓS, EN BAS, UN MORCEAU DE LA TRAME DU PRÉTENDU TISSU DE LA MOUSTIQUAIRE. PROPRIÉTÉ DU MUSEU SIMOENS DA SILVA DU RIO DE JANEIRO

recteur du Musée Ethnographique de Berlin, notre ami de plus de vingte ans et auteur de l'oeuvre si instructive *Indianer Studien in Zentral-Brasilien* en 1927, en nous faisant une visite à Rio de Janeiro, à la veille de partir, pour le seconde fois, pour l'Etat de Matto-Grosso, en mission du Musée Ethnographique de Berlin, ce savant admira beaucoup cette moustiquaire exposée dans un des salons de notre Musée, et après l'avoir beaucoup admirée, nous dit que

> ''c'était une pièce extrèmement rare et qu'il n'en avait pas vue d'autre jusque là, dans aucune collection ethnographique en dehors du Musée de Berlin et qu'il admirait sa perfection et son parfait état de conservation qui en augmentaient encore plus la valeur—Que les Indiens qui les fabriquent, aussitôt qu'ils ont réussi à préparer une de ces pièces en font immediatement un tel usage, qu'en peu de temps, elles perdent leur beauté et qu'exceptionnellement elles possèdent la fraîcheur de celle qu'il avait en ce moment sous les yeux. Que dans la région du Matto-Grosso, habitée par les Indiens Guatós, il avait eu l'occasion en 1900, de voir une de ces moustiquaires montée sur le sable, sur les bords du Rio São-Lourenço, tendue sur deux rames enfonçées dans le sol, et si près de la terre que ses franges arrivaient à la toucher. Qu'il avait eu l'occasion d'utiliser alors pour une unit cet élément de protection contre les moustiques,

le supportant avec peine par suite de la grande chaleur qui régnait dans son intérieur et y prenant, bien contre son goût, un véritable bain de sueur.''

Il en résulte donc, que la pièce en question est un objet que l'on trouve peu souvent, d'où sa rareté dans les collections et sa réelle valeur.

Parmi les objets en tissus, cette moustiquaire, faite d'une seule pièce, présente une telle perfection, qu'elle ne paraît pas une oeuvre de sauvages. De couleur marron, et, comme nous l'avons déjà dit, toute en fibres de Tucum, obtenues par macération dans l'eau, et aussi résistantes que de la laine végétale, elle a une forme circulaire, sans la moindre réparation, mesurant: 1 mètre de largeur, ou de hauteur, et de circonférence: 3 m. 88, d'un de ses côtés et 4 m. 88, de l'autre; elle est fermée du côté le moins large, parfaitement bien cousue avec des fils faits avec la même fibre et a l'aspect d'un grand sac, quoique de disposition diverse des sacs ordinaires, puisque l'entrée ou l'ouverture est à la partie la plus large.

Pour s'en servir, la partie de la couture est en haut, en position horizontale, formant extérieurement une arête, lui donnant l'apparence d'un toit; à l'intérieur l'étoffe forme un grand angle dièdre. Avec deux ou trois baguettes de bambou ou de roseau on ouvre cette pièce originale, la transformant en une moustiquaire infranchissable, dont la base, au ras du sol, mesure: 1 m. 20, ou un peu plus, si cela est nécessaire, de largeur, et plus ou moins 0 m. 80 de hauteur interne.

Dans cet abri, étroit et étouffant dorment les Indiens de la tribu des Gautós qui désirent se préserver de la piqûre d'insectes aussi nuisibles à l'humanité.

Pour fabriquer cette moustiquaire, les fibres sont d'abord traitées par le procédé que nous avons indiqué puis réunis en longs et fins faisceaux, suivant le sens vertical, admirablement attachés entre eux par des lignes de fils tressés, de même matériel, disposées horizontalement; la grande étoffe ainsi faite est un parfait tissu rustique, de résistance incomparable.

Les lignes horizontales servant à fixer la trame de l'étoffe, sont au nombre de cinquante exactement, espacées généralement les unes des autres de 1 cm. 5, sauf l'avant-dernière et la dernière qui ont respectivement 2 cms. 5 et 3 cms., d'intervalle.

Ce magnifique objet est terminé par une belle frange, de même fibre, complètement effilée, de 18 cms. de longueur.

Pour n'oublier aucun détail, nous ajouterons que le poids total est de 4 kgs. et 50 grammes.

La moustiquaire, en question, est donc une pièce de fibre de palmier, de manufacture indigène typique, de très bel aspect, extraordinairement résistante, rare et de très grande durée.

BIBLIOGRAPHIE

FERREIRA, FRANCISCO. *Diccionnario Géographico das Minas do Brasil.*[1]
DE MELLO, HOMEM. *Géographia—Atlas du Brasil.*[1]
RODRIGUES, BARBOSA. *Sertum Palmarum.*[1]
SCHMIDT, MAX. *Indianer Studien in Zentral Brasilien.*[1]

RIO DE JANEIRO, BRÉSIL.

---

[1] Appartenant à la bibliothèque de l'auteur.

LA MÚSICA Y LA DANZA DE LAS TRIBUS INDIAS KAA-IHWUA (GUARANI) Y BOTOCUDO

Por I. D. Strelnikov

LA danza, la música, y el canto expresan todas las emociones de los pueblos primitivos. La vida del hombre primitivo es puramente motriz,—su forma natural es el movimiento. Debido a esto su modo de expresión mas natural está en la danza y la música.

En la vida los pueblos civilizados y no-civilizados tienen escencial significacion los manifestaciones emocionales, unidas al juego y à los movimientos del cuerpo. Los juegas, la diverciones (sport), las danzas, son los manifestaciones de la naturaleza humana, y siempre se encuetran en permanente conneccion con las particularidades del modo de vivir, con las creencias religiosas y con los otros manifestaciones espirituales.

Los observaciones, efectuados en algunos tribus de los indios del Matto-Grosso, Sao-Paulo y del Paraguay por mis companeiros de viaje y yo, darian algun material para dejar en claro caracteristicas de estos aspectos de su vida.

E. Nordenskiöld, describiendo el carácter de la vida de los indios Aschluslay,[1] señaba que la vida de los indios de este tribu se divide en tres periodes: el periodo de los juegos—infancia y juventud; el periodo del amor—edad adulta; y después el periodo de los fiestas, que comprense desde los cuarenta años adelante. Las juegas, el amor y los fiesta a van accompañadas de los emocionales manifestaciones en forma de movimientos y danzas al son de canciones y de la música.

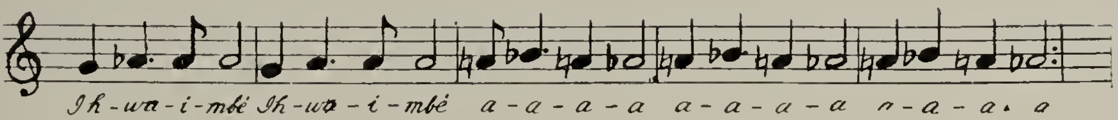
Como uno ejemplo, intentare presentar aqui la descripcion de las danzas funebres aserca del indio muerto de guarani Kaa-ihwua. Mis observaciones han sido efectuadas en el Paraguay, en la pequena pueblo Mboih (serpiente), situado en las margenes del rio Mondaiy, affluente del Alto Parana.

Cuentase que a la hora del crepusculo de la cabaña, en donde estuvo expuesto el cadaver del indio Caboih, salen gemidos y exclamaciones que se extienden por toda la foresta vecina. Dentro hay de una vela de la cer a hecha por los indios, que illumina de la cabaña.

Los hombres, las mujeras y los niños en parejas, tomado de la mano, danzan dentro de la cabaña; se balanzan y saltan de un lado a otro, mientras tocan la música y se acompañan de canciones de la voz. Dos mujeres (que habran mantenido alejadas a la izquierda), golpean la tierra con un grueso bambuco, produciendo un sonoro y ritmico ruido. Este ruido acompañaba durante todo el-tiempo a la musica. Un de los indios de mas adelaute, columpiando y bailando, arranco estridentes sonidos del *maraca* (una especia de guitarra) en dos a tres accordos graves. El otro indio toco la flauta (*araitih*) accompañado entonces del coro; durante toda la noche el coro de los indios bailadores repetia un solo motivo para el palabra *Ihwaimbe*-nombre del indio difunto. *Ihwaimbe*- este es nombre de una planta epifita-*Philodendron,* de la familia *Araceae,* que tiene grandes frutos. Al difunto le habia gustado mucho comer de ellos; por eso se lo llamo asi desde niño.

---

[1] Nordenskiöld, E., *Indianerleben. El Gran Chaco,* 1912, p. 97.



Palabra *Ihwaimbe* era repetido dos veces despues solo se oia la música; y luego se repetia nuevamente la palabra *Ihwaimbe.* A veces la música era mas movida, los indios danzaron entonces con mas rapidez y la cadena de los bailadores se rompio, para empezar de nuevo danza con movimientos de torbellino.

Hasta que algun indio cae rendido de cansanicia acompanaban a esto sonoros exclamaciones. Un indio viejo (shaman ó paje) peludo y falto de un ojo, lo saco de la cabaña y fumigó al caido con el tabaco de la pipa, que una mujer le habia entregado. Esto debia ahuyentar ''el mal'' del indio delibidado.

De tiempo a tiempo este paje fumigo con fumo de tabaco del pariente del difunto, para preservarlo del ''mal''.

Esa noche en la aldea (*tapuih*) todo se tranquilizo por cierto tiempo. Los bailadores dentro de la cabaña reposaron sentandose en cuclillas.

Despues de media ora la música, cancion y danzas recommenzaron, primero sorda y lentamente y despues cobro mas fuerza y animacion.

Al amanecer del dia siguente terminaron los ritos funebres. Los indios, despues de haber sepultado al difunto, volvieron a su casas mas o menos alejadas de aquel lugar.

Ritos religiosos de guarani, que han suffrido la influencia europea y que cuentan con algunos elementos del cristianismo, presentan una mescla originale de creencias y ceremonias religiosos de los indios y de los cristianos.

En el pueblo de Jacutinga del estado Sao Paulo, mi amigo H. Maniser ha observado ''el vespero'' y ''el bautizo'', que tenieron lugar estraña iglesia, provista de altar y adornada con varias imagenes de los ''santos.'' Ambos ceremonias consistieron en danzas y ritmicos cantos durante toda la noche. Las mujeres, participantes en la ceremonia, tenian palos de bambuco en los manos, con que hacian estranos ruidos, los que eran acompañadas de crepitaciones de la matraca, que llevaban los hombres.

La matraca del paje era duble; y costaba de los matracas, atacados junto. Ambos estaban adornadas con borlas de plumas de tucano y de papagayo. Estes adornos tienen su significacion en la ceremonia, porque representan los espiritus de las aves, que ayudan al paje. Su significacion es magico.

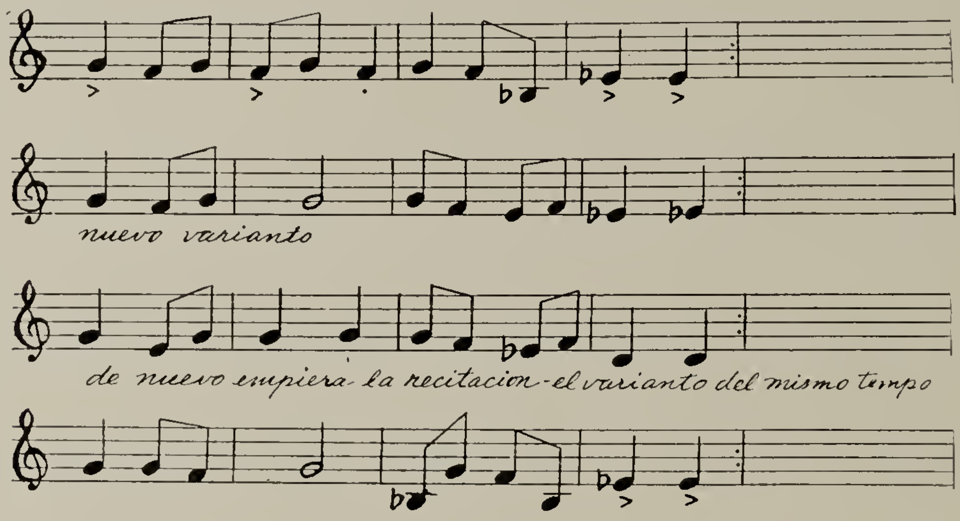
La ceremonia empieza despues del silencio y de prolongadas expectoraciones; despues todos recitan suavemente.

Entonces aparece la procession-adelante van ninos, formados de a dos; detras siguen hombres, las mujeres y las muchachas. Las mujeres llevan palos de bambuco. Los hombres se colocan al lado derecho de la entrada; las mujeres toman colocacion ante el altar.

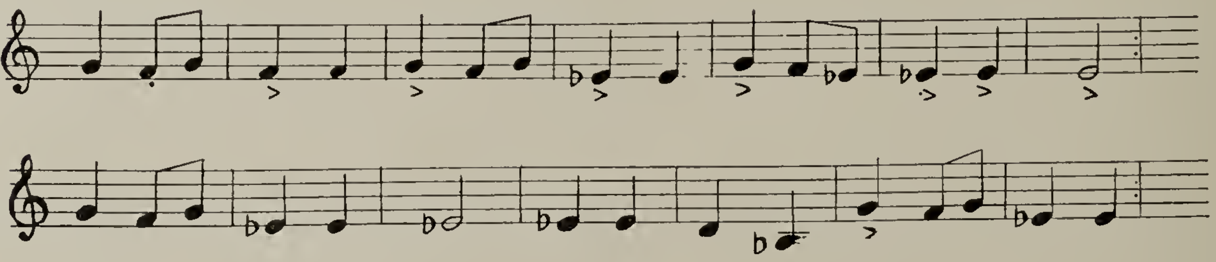
Quando el paje ha pasado, se oye una música mas allegre; las mujeres que ya estan sentados, comienzan suavemente a golpear con la punta palos de bambuco, haciendo un pequeno ruido, que despues se hace cada vez mayor. Este estruendoso ruido marca el ritmo. Las mujeres commezan entonces a cantar, repetiendo lo que canta el paje. Luego varias de las mujeres y despues todos ellos se levantan, y siguiendo el ritmo de los golpeas de los palos, saltan en el mismo lugar.

El paje y los hombres hacen ver ritmo con sus matracas, y se toman de la mana formando pareja, pronto bailan, ejecutando mecanicamente pasos adelante y atras.

Paje adelante hacia el altar y comienza bailar siguiendo el compas y balanciendo se de derecha a izquierda. Despues de una corta pausa, en el momento en que el ruido de las matracas ceda; sin embargo, despues de nuevas expectoraciones, empieza la recitacion y nueva melodia sin el ruido ritmico, acompanada unicamente con el ruido de la matraca.


nuevo variante
de nuevo empieza la recitacion - el variante del mismo tiempo

Obediciendo a un signode paje los hombres marchan en filos, saltando delante de los idolos. Las mujeres continuan saltando con los dos pies, haciendo despues un circulo alrededor de los santos; esto se repite varias veces. Luego viene la recitacion, y durante el descanso general se deja oir la música nuevamente.



Despues de varias cambias del motivo musical y del recitaciones sin palabras en este parte de ceremonia paje es reemplasado por otro. Este nuevo paje camina a la cabeza de todos los participantes, saltan despues alrededor del altar siempre accompanada de musica, pero lo hace con menos precision y maestria, que el primero. Este motivo se muda luego, y recompiensan las golpes de los palos y los saltos.

Despues de algunas marchas circulares alrededor de altar, el paje canta una aria sin palabras, oyendose solo crepitacion de las matracas. En seguida paje marcha saltando al rededor de altar solo con la muchacha, ante quien el ha cantado todo el tiempo; viene en seguida la marcha en filas.

Al fin paje por dos veces salta solo al rededor del altar; y un tercero paje lo reemplaza, a quien se aclama al son de las matracas. En los recitaciones de el hay trinos musicales. Este paje tambien hace un circulo al rededor de altar con otra muchcha. Ya en la madrugada todos los indios lentamente marchan al rededor de altar, teniendo en los manos los palos de la danza, como si tuvieran velas. Con eso se termina la vispera.

A de mas de estas danzas rituales guarani danzan en los momentos alegres de la vida, como ser despues de caza provechosa, de una buena cosecha de frutos de los montes-es seguida de danzas prolongados. Cuando las cazas anteriores no han sido buenas toda la populacion de la aldea espera a los cazadores y se regocijan bailando mucho.

Al rededor del tapiro traido se organizan bailes; los hombres, las mujeras y los ninos se toman de la mano, dando vueltas y haciendo ruidos con los palos del bambuco; todo tiempo cantando un mismo sin palabras. Despues repeten la palabra ''*iponá*'' que significa ''bueno''. Luego saltan en sus mismos lugares, constituyendo la parte principal de las danzas.[2]

Quando todos estan fatigados, empeizan la distribucion del botin, entre todos habitantes del aldea.

El otro ejemplo de las danzas de la caza entre los Botocudos:—

El habla de los Botocudos se asemeja mucho con el canto. La alegria, la tristeza y los rituales necrologicos van siempre acompanado de danzas y canto. Mi amigo y camerade de viaje, H. Maniser,[3] he observado en Pancas, una aldea de los Botocudos en el estado de Sao Paulo, dos formos de la danza. La danza del circulo y la danza a dos filas.

Todos los sucesos importantes van acompanados de las danzas. Los hombres se unen si con las manos sobre el cuello; las mujeres se agarran de los manos. Cuanto participan en este danza se mueven de acuerdo con la direccion dela manilla del reloj, inclinando lijeramente la cabeza hacia adelante, a cado paso. Las mujeres hacen lijeras y corteses reverencias a cado paso, pero no se inclinan hacia adelante, como hombres. Los hijos danzan igualmente, esforzandos en imitar los movimientos de los adultos.

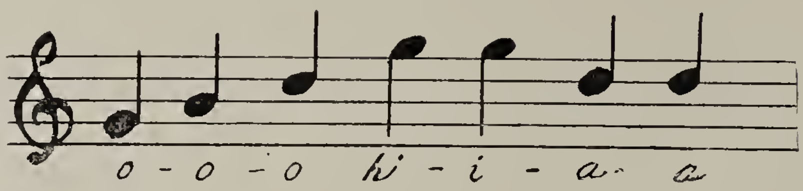
La afortunada caza de los Botocudos, lo mismo que la de Kaa-ihwua va igualmente acompañado de danzas y cantos. Los cantos de los cazadores estan basado en la descripcion de la caza y de la morte de los animales cazados; como estribillo sirve la repeticion de los nombres de los animales cazados, por ejemplo; ''o-h-i-a'', es el nombre de la gran ave *Palamedea cornuta,* etc.

A veces, despues de una fortunada caza, los Krenakos suelen representar una escena en relacion con la caza del jabali. Los jovenes con loss arcos se sientan en fila en el suelo, volviendo acuerda con el ruego de las temerosas mujeras hacia el rio, con objeto de que las flechas nunca vayan hacia las cabañas. Asi ellos tienen verticalmente las flechas. Muni, el jefe de tribu, se para muy cerca y cantando hace la oracion de la caza. Cuanto en el narracion aparace el jabali, todos se levantan rapidamente gritando y dirigiendo las flechas sobre la superficie del rio, que refleja la brillante luz de la luna.

---

[2] La descripcion de los instrumentos musicales esta dado en mi articulo, Les Kaa-ihwuá du Paraguay (*Atti del XXII Congresso Internazionale degli Americanisti,* Roma, 1926).

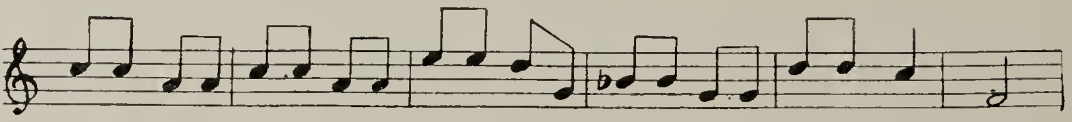
[3] Maniser, H. H., La musica y los instrumentos musicales de los indios de algun tribus de Brazil (en ruso: *Trabajos del Museo de Antropologia y del Etnografia,* 1918).



Balanceando hacia adelante y hacia atras al mismo tiempo castanetean los cordones de los arcos y todos repiten los estribillos del jefe, pronuncianda y cantando palabras ''jabali, jabali''.

El estribillo de las danzas del circulo suele se una frase de pocas palabras, como por ejemplo; ''el chotacubras esta sentado ''mirando hacia ariba'', el jaguar est colerico'', ''cuando los ojos estan bien, se puede caminar mejor'', etc.

La segunda forma de la danza es la marcha a dos filas. Un ejemplo; Un ciego anciado declaro, que el podia producir la lluvia con las danzas y los cantos. Asi ordeno a todos los hombres, que se unieran en un lugar espacioso en el monte. Los hombres y las mujeres colocaronse de pie en dos filas unos ante otros; despues comenzo la cancion apropiada.



Las frases de pocas palabras que pronunciaron fueron; ''falta el agua'', ''hace mucho calor'', ''el fuego desea inflamarse'', etc. Despues traen vasijas para el agua, y empieza la cancion con las reverencias propias del caso. El golpeo de las vasijas-palos de bambuco-forma ritmo de los movimientos.

Haciendo reverencias los hombres van hacia las mujeres y cuando estan muy serca, se detienen un momento, regresando despues paulatinamente a sus punto de partida. Las mujeres siguen los hombres. Enseguida la mitad de los hombres hace el circulo y dan la vuelta, apariciendo detras de las mujeres. Ellas van, danzando, alrededor de los hombres y de nuevo aparecen en frente.

Despues de largas danzas y canciones, dirijiendo hacia Maret Hmakniam (es un ser sobrenatural), ejecutan los invocaciones:—el envia la lluvia, los alimentos y otros beneficios de la tierra. Las canciones y las danzas estan relacionadas con las ideas que ellos tienen formada del mundo.

La invocacion de la lluvia entre los indios Kaa-ihwuá se acompana con lamentaciones, dirijidas algunas veces desde lo alto de los arboles.

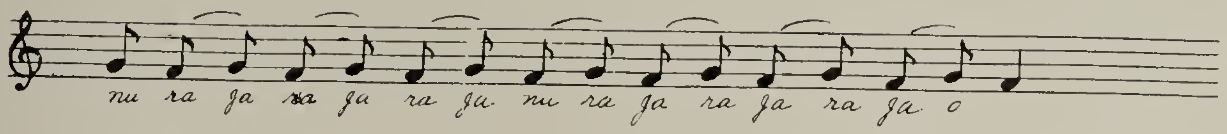
Uno ejemplo mas. Las danzas del salto en ''las visperas de danzas'' entre los Botocudos tambien son comenzado casi siempre por los hombres; de aqui un ejemplo.

Sobre una plaza; dela que a prevencion se habia quitado troncos y raices, anda adelante y atras Niat, el hermano del Muni, jefe de la tribu de los Botocudos-Krenak. Camina rapido y tiene en los manos el arco y las flechas, habla calurosamente para se mismo y de tiempo a tiempo canta en voz baja.

Alrededor estan algunos jovenes espectadores y el anciano Krenak. Al llegar a una parte de su oracion Niat, de repente grita ruidosamente, levanta sus codos y teniendo las armas adelante si, empiezo a moverse de lado, dando grandos saltos. Entre ruidosas exclamaciones "ha, hi", etc., pronuncia el nombre del vestido, que esperaba recibir en las proximas dias.

El salto alto fatigan aun a un hombre fuerto, como Niat, quien sudoso y respirando con dificultad y se retira a un lado de la plaza. Despues el viejo Krenak y el indio Kiktia, que a la sazon estaba provisto de un arco, comenzaron a saltar de lado. Estos saltos empiezan con exclamaciones ruidosos y continua acompanados de frases cuya pronunciacion guarda el ritmo de los saltos, haciendo referencias por ejemplo, a su nueva navaja, que lleva suspendida de un cordel en forma de cinturon.

Despues de estas elocaciones Krenak continua con el estribillo "nuraja", que se canta frecuentemente durante las danzas. Al llegar este momento, algunos de los espectadores se unen rapidamente con los saltadores cogiendose de los manos o uniendo las espaldas; pero formando todos ellos un solo harmonico grupo.



Algunas veces el iniciador de estas danzas es Muni, jefe de la tribu. Aparecia con un arco ó con una antorcha, y empiezaba à hablar de prisa aumentando cada vez mas la velocidad de su expression, hasta que comenzaba saltar de lado entre los que estaban sentado. Su lenguaje se convertia en un canto, consistente en la repeticion del mismo motivo de queja su vida semi-ambrienta. Al llegar un momento del estribillo todos oyentes-mujeres y hombres se levantan rapidamente gritando ruidosamente y agarrandose a el con los manos, comenzan todos a saltar. Del grupo se destaca especialmente las manos levantados del jefe quien sigue sujetando el arco ó la chispeada antorcha. El chisporioteo de esta suele causar una cierta sensacion de alarma entre ellos.

Observaciones de las danzas de los indios Kaingang, y Chavantes, y los anteriores ejemplos de los movimientos del cuerpo indican, que casi siempre van acompanados de la musica. Las danzas en union de la musica aparecen en casi todas las manifestaciones emocionales de alegria y de la tristesa. Tambien acompañan los ritos, y tienen una intima conneccion con sus creencias.

La primitiva percepcion de la vida y del mundo fisico generalmente es cinematica. El hombre primitivo siente su propia vida, ante todo, como un movimiento; el mundo exterior se presenta ante el no solo eternamente vivo, sino tambien acompanado de una eterna movilidad, que viene directamente hacia el y le rodea. La verdadera forma de percepcion animista del mundo es una combinacion de innumerables imagines de los espiritus, hombres, animales, que siempre mudan de forma y lugar, particularmente en relacion con el centro de percepcion, el hombre.

Aun las mismas representaciones graficas, dibujos, etc., son cinematicos. No solamente los hombres y animales aparecen corriendo, sino tambien las aves cuando volan y las lanzas y las flechas cuando han sido disparada por los arcos. El ojo del hombre primitivo, como el vivo cinematografo, el coge cado momento.

Las palabras pronunciadas representan en forma de zig-zag. Y aun la cólera y el amor y otros passiones humanas reciben representacion grafica.[4]

Percepcion cinematica del mundo y de las relaciones con el se manifesta tambien en movimientos muy diversas del cuerpo en las danzas y en las juegas.

Las manifestaciones emocionales de la alegria y de la tristeza, ritos y ceremonias van acompanados de los maximas manifestaciones de la naturaleza humana cinematica en los movimientos del cuerpo con la música y con las canciones. Cuanto mas vivos son las representaciones, tanto mas grande es la velocidad y la fuerza de los movimientos de la danza.

El maximo esfuerzo en los acciones se obtiene, cuando el hombre pone en movimiento todos su faculdades y destreza en el canto y en la danza.

En los movimientos del cuerpo durante de las canciones, danzas religiosas, de caza, etc., nosotros tenemos la sintesis de los fenomenos, al parecer lejanos, tales, como la representacion del tiempo y del espacio.

UNIVERSITY OF LENINGRAD,
LENINGRAD, RUSSIA.

---

[4] Bogoras, W., Ideas of Space and Time in the Conception of Primitive Religion, *American Anthropologist*, N. S., vol. 27, no. 2, 1925.

FABRICACION DE ALFARERÍA MODERNA EN LA REGION SERRANA DE LA PROVINCIA DE CORDOBA (REPÚBLICA ARGENTINA)

POR FRANCISCO DE APARICIO

LOS autores que han estudiado la etnografía del noroeste argentino no nos han trasmitido ninguna noticia acerca de la fabricación de alfarería moderna, industria que ha de contar aún, seguramente, con algunas cultoras. Boman es el único que suministra informaciones al respecto dándonos a conocer sus observaciones sobre la confección de un vaso en la Puna de Jujuy.[1] Esta falta de noticias acerca de tan interesante elemento etnografíco me ha inducido a averiguar con especial empeño, en el curso de mis investigaciones arqueológicas en la región serrana de Córdoba, acerca de la existencia de personas dedicadas en la actualidad al trabajo de la cerámica.

La industria puede considerarse, hoy, completamente desaparecida en la región. En el curso de varios años de investigaciones sólo me ha sido posible obtener noticia de la existencia de tres ancianas ''olleras.'' Unicas sobrevivientes, quizá, del antiguo gremio, las cuales han abandonado hace años el oficio que sólo cultivan a pedido especial de algunos turistas curiosos o amigos de coleccionar objetos de manufactura criolla.

Dos de estas olleras, Doña Catalina Gómez, vecina de San Esteban, y Doña Viviana Luján, vecina de Charbonier, han suministrado las noticias y documentos que dan tema a la presente comunicación. La tercera alfarera de que tengo noticia vive en lugar apartado del campo de mis investigaciones en los últimos años y no me ha sido posible hasta ahora entrar en relaciones con ella.

Basta una rápida visita a la región para darse cuenta de que la alfarería ha desaparecido industrialmente hace muy pocos años, pues si los objetos fabricados en tierra han cedido su puesto a los de lata en el ajuar doméstico, raro es el rancho en que no exista todavía algún viejo tiesto de barro, averiado comúnmente y desempeñando subalternas funciones de recipiente para plantas. Es indudable que la desaparición de esta industria se debe, en primer término, al automóvil, medio de transporte que en aquel lugar ha adquirido extraordinario incremento durante los últimos años, gracias a la excelente red de caminos que va surcando la sierra en todos rumbos. No sospecharán, por cierto, los impulsores de la vialidad, el pequeño trastorno etnográfico que ocasiona su grande obra. Es la abundancia de recipientes de lata que el uso del automóvil origina, la causa principal de la desaparición de los tiestos de barro, costosos, frágiles y cada vez más difíciles de conseguir.

En dos oportunidades he podido observar y documentar fotográficamente el proceso de fabricación de un vaso. Doña Catalina Gómez modeló en mi presencia el vaso que presento en la Fig. 1 y Doña Viviana Luján el representado en la Fig.

---

[1] Boman, Eric, *Antiquités de la région andine de la République Argentine et du désert d'Atacama,* Paris, 1908.

2. Ambas trabajan por medio de una misma técnica — que a estar a las referencias obtenidas ha sido general en toda la región — de modo que entre las dos sesiones, en que se confeccionaban vasos de distinto tipo, he podio obtener detalles completos acerca de la industria alfarera cordobesa, tan pobre de recursos como de formas.

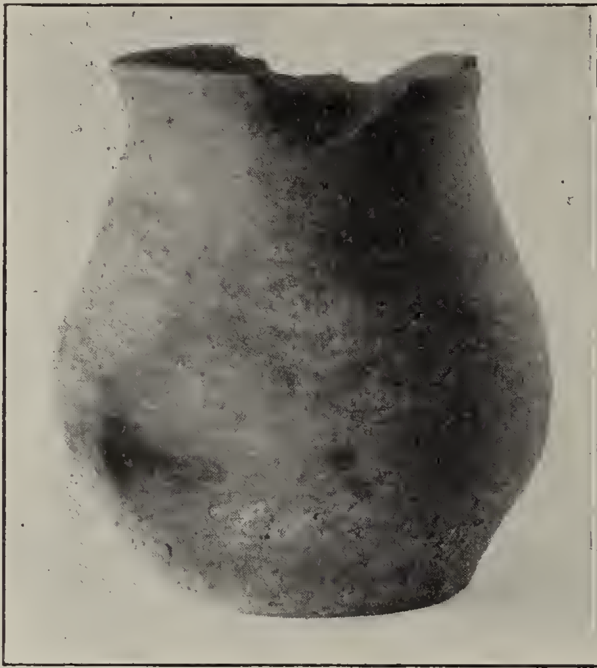


Fig. 1—VASO MODELADO EN PRESENCIA DEL AUTOR Y CUYO PROCESO CONSTRUCTIVO SE ESTUDIA EN EL CURSO DE ESTA MONOGRAFÍA. APPROXIMADAMENTE $\frac{1}{3}$ DEL TAMAÑO NATURAL

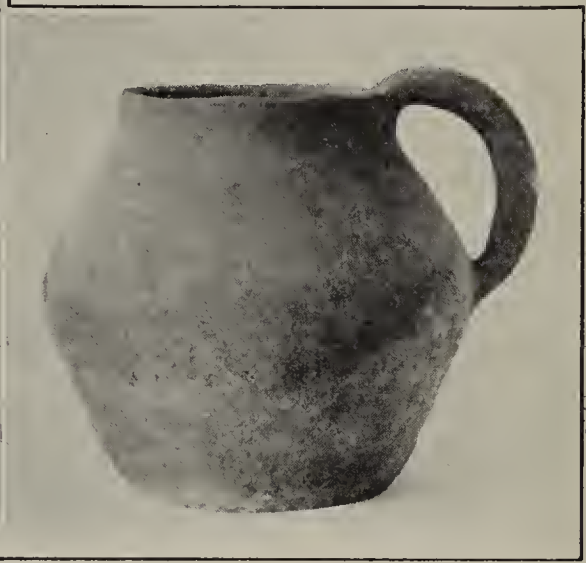


Fig. 2—VASO MODELADO EN PRESENCIA DEL AUTOR Y DE CUYO PROCESO CONSTRUCTITO SE ESTUDIAN ALGUNOS DETALLES EN EL CURSO DE ESTA MONOGRAFÍA. APROXIMADAMENTE $\frac{1}{4}$ DEL TAMAÑO NATURAL

Extracción y Preparación de la Tierra

Ni Doña Catalina ni Doña Viviana agregan *degraissant* alguno a la tierra que emplean en su industria. Su talento consiste en saber elegir el material y no en componerlo. Ambas emplean tierra procedente de las proximidades de su residencia y a lo sumo llegan a mezclarla con tierra de otra parte, cuando la consiguen. Curioso es que ninguna de las dos que han conocido en sus buenos tiempos muchedumbre de alfareras, hayan oído mencionar nunca la práctica de corregir el grado de plasticidad de la tierra, mediante el agregado de substancias adecuadas. Esto puede explicarse, en primer lugar, por la calidad inferior de la alfarería así fabricada; luego, por la circunscia de que en la región abundan los arroyos y cañadones que presentan barrancas cortadas a pique que constituyen excelente repositorio de las más diversas clases de tierra, lo cual les permite proveerse de un material sino excelente, apto por lo menos para el desarrollo de su primitiva industria.

Entre la gran cantidad de fragmentos de alfarería que poseo en mi colección de arqueología cordobesa no existe ninguno que permita observar la presencia de *degraissants* fácilmente reconocible, como alfarería molida, etc. Abundan fragmentos que contienen una gran cantidad de mica pero juzgo imposible establecer si esta materia ha sido agregada a la pasta o si — lo que considero más probable — estaba naturalmente contenida en la tierra elegida. La mica abunda en muchos terrenos cordobeses y sus tierras, por esta misma circunstancia sin duda, son elegidas para la fabricación de objetos de cerámica, aún por las fábricas de las ciudades.

La tierra empleada por las alfareras de que me ocupo es un limo reciente de color gris obscuro, muy rico en substancias orgánicas. La extraída de los alrededores de Charbonier es un tanto arenosa, la de San Esteban es más untuosa al tacto, contiene, quizá, un exceso de arcilla y es por esto sin duda que Doña Catalina se queja de la fragilidad de los vasos modelados con ella y prefiere mezclar esta tierra con la de Charbonier cada vez que puede proveerse de ella. Doña Viviana, en cambio, usa siempre la tierra de su vencidad en estado natural, sin agregado alguno.

El limo a que acabo de referirme, cualquiera que sea su procedencia, es muy compacto y se desprende en terrones relativamente grandes y duros.

A fin de preparar este material, se comienza por machacarlo hasta reducirlo a partículas menudas y finalmente a polvo. Esta operación se efectúa sobre un cuero, golpeando, comúnmente con la mano del mortero. A medida que se va reduciendo la roca, se cierne a fin de eliminar todos los elementos extraños que pudiera contener: pequeños guijarros, gravas, residuos vegetales, etc.

Para reducirla a granos más menudos, la tierra se humedece ligeramente; guárdase así varios días, repitiendo cotidianamente la operación de machacarla, se va sometiendo a prueba, al mismo tiempo, su plasticidad, amasándola con paciencia y prolijidad. Esta tarea no puede interrumpirse, si la tierra que se ha comenzado a ablandar se seca y endurece ''no hay quien la ablande más.''

Penoso le era a Doña Catalina concretar en breves sentencias lo que era para ella sabiduría empírica que aplica desde casi un siglo sin haber sentido nunca necesidad de transformarla en doctrina. Mi curiosidad le resultaba, sin duda, inorportuna y difícil de satisfacer. La dificultad arreció cuando insistía en saber en qué momento se daba por terminado aquel proceso de preparación de la plastidicad de la pasta. De pronto, entre disgustada por el preguntadero constante y contenta por haber encontrado el modo de terminar aquel molesto interrogatorio, ''y hasta que quede como la masa del pan,'' me dijo, mientras me enseñaba cómo un pedazo de tierra cedía dócilmente a la leve presión de sus dedos casi paralíticos, en los que la vida ya sólo es un recuerdo.

Instrumental

El instrumental empleado por las alfareras serranas no puede ser más somero ni mas primitivo.

Un maslo, es decir una mazorca de maiz desgranada, y una astilla de caña, bastan para alisar la superficie externa del vaso. Un fragmento de corteza de una pequeña calabaza, de las usadas para tomar mate, es suficiente para pulir el interior. El borde se modela y se pule con un pequeño trozo de cuero delgado, convenientemente humedecido.

Modelado

Doña Catalina procede en la siguiente forma: toma un trozo de tierra al que da forma más o menos cilíndrica, (Fig. 3) luego oprimiéndolo con la mano derecha, le imprime un rápido movimiento de rotación, tomándolo y soltándolo, al par que lo golpea fuertemente sobre el cajón en que trabaja. En pocos minutos ha formado un pequeño cono de amplia base; lo invierte bruscamente, presiona sobre él de modo que el vértice dasaparezca convirtiéndose en el asiento del futuro vaso, mientras sus pulgares oradan activamente la masa que simultáneamente hace girar con celeridad hasta ahuecarla por completo y dar forma al vientre de la vasija (Fig. 4).

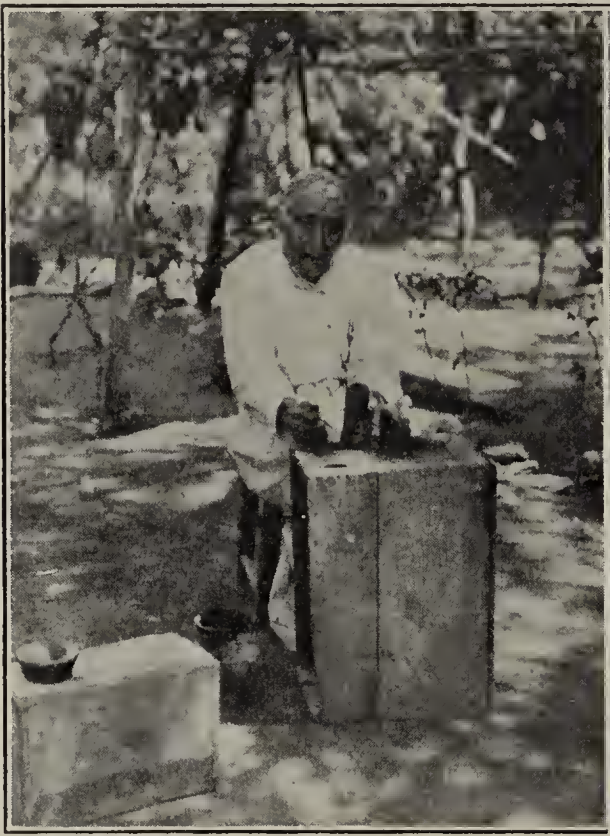


FIG. 3—DOÑA CATALINA GÓMEZ, ALFARERA DE SAN ESTEBAN, DESPUÉS DE TERMINAR LA ETAPA INICIAL DEL MODELADO DEL VASO REPRESENTADO EN LA FIG. 1

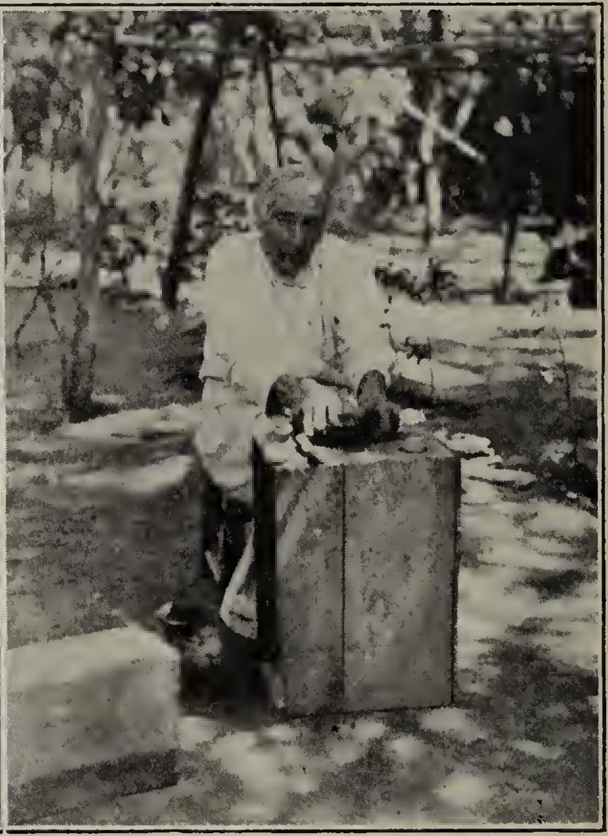


FIG. 4—AHUECAMIENTO DE LA PARTE INTERIOR DEL CONO PARA FORMAR EL VIENTRE DEL VASO (VEASE FIG. 5B)

Este sistema de iniciar la construcción de un vaso ha sido, sin duda, general en la región. Todas las informaciones que he podido recoger coinciden al respecto y las dos alfareras que he observado proceden de idéntica manera.[2]

---

[2] Sólo me propongo en esta breve comunicación—obvia decirlo dar noticia de la técnica empleada por las alfareras que he podido observar y no agotar el tema un estudio comparativo. Creo oportuno, sin embargo, llamar la atención acerca de este curioso procedimiento que no recuerdo haya sido mencionado anteriormente. Según Boman, la alfarera puneña ''étendait une couche de la pâte, plus ou moins circulaire, sur un poncho posé sur le sol. Le centre de cette couche devait former le fond du vase; les bords étaient recourbés en haut pour en commencer la panse,'' (Boman, *op. cit.* p. 479).

Boman que ha hecho un breve estudio comparativo de esta industria entre diversos pueblos sudamericanos, menciona las informaciones de M. H. Brüning según las cuales los aborigenes de Piura modelaban el fondo de sus vasos sobre una piedra de la forma que ellos deseaban dar a su vasos, solamente el borde sería agregado después (*op. cit.*, p. 482). Así también recoge la opinión de M. P. A. Kunert quien cree que ''les vases anciens de l'Etat de Rio Grande do Sul (Brésil), ou du moins le fond de ces vases, ont été formés de cette manière, puisqu'il a vu, près d'anciens ateliers de potiers, des pierres dont la forme correspondait a celle de certains vases trouvés au même endroit'' (*ibid.*).

He creído oportuno insistir en los detalles de esta curiosa técnica. Al efecto hice suspender dos veces la operación, una al terminar la confección del cono, otra después de invertido y comenzado a ahuecar, a fin de conservar las piezas que documentan estos estados del proceso que estudio.

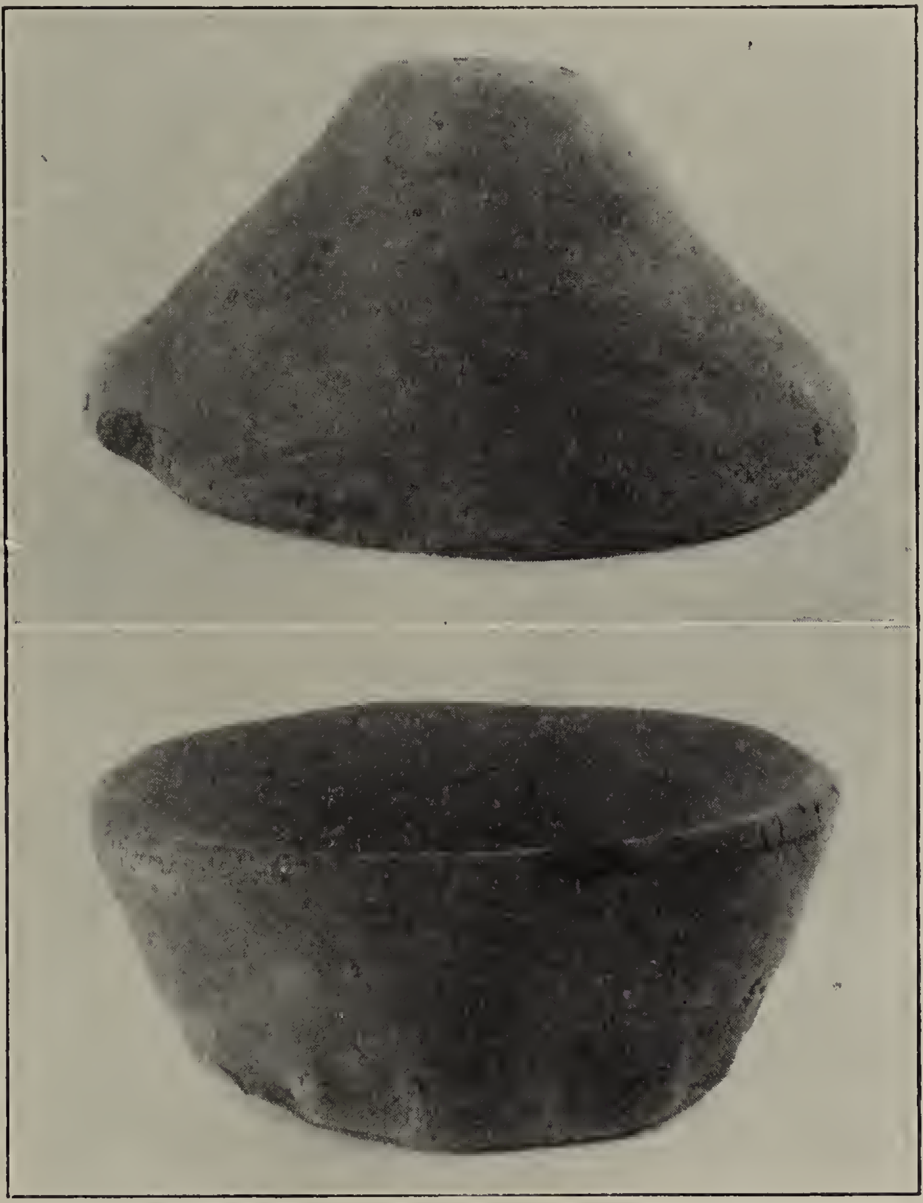


Fig. 5a—detalle del cono

Fig. 5b—estado de la base del vaso al comenzarse a ahuecar par obtener el vientre (operación representada en la fig. 4)

S. Linné que ha realizado hace poco tiempo una interesante síntesis acerca de la técnica de la alfarería sudamericana, limítase, a este respecto, a dar algunas informaciones de carácter general y no aporta detalles precisos acerca de la manera de comenzar los vasos (confr. Linne, S. *The Technique of South American Ceramics,* Göteborg, 1925).

En el norte de América, a estar a la autorizada opinión de Holmes, los vasos se comenzarían ordinariamente de análoga manera a la observada por Boman en la Puna: ''Usually a bit of the clay was shaped into a disk for the base, and the walls were carried up by adding strips of clay, etc.'' Y los Pueblos, maestros en el arte de la cerámica, comienzan sus vasos moldeando el fondo dentro de una canasta o dentro de un viejo vaso, llegando los Zuñis a tener moldes de cerámica construídos especialmente para este fin, Holmes, W. H., en: Hodge, F. W., Handbook of American Indians, *Bulletin 30, Bureau of American Ethnology,* Palabra: Pottery.

Este último procedimiento puede seguirse claramente en las excelentes ilustraciones de una obra aparecida poco ha y destinada exclusivamente al estudio de la cerámica entre los Pueblos, Guthe, Carl E., *Pueblo Pottery Making,* New Haven, 1925.

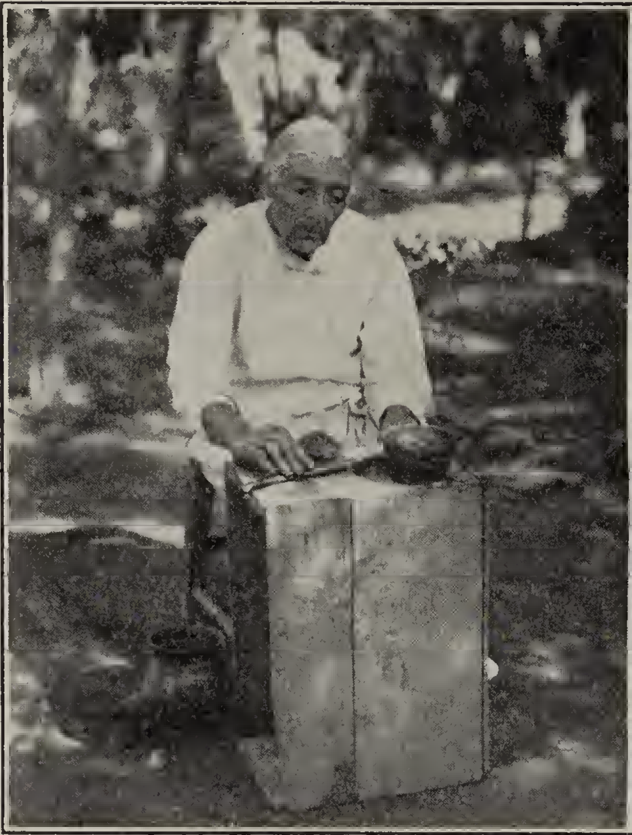


Fig. 6—PREPARACIÓN DEL PRIMER RODETE, UNA VEZ TERMINA DE LA SECCIÓN DEL VASO QUE SE OBTIENE CON EL MODELADO DEL CONO INICIAL

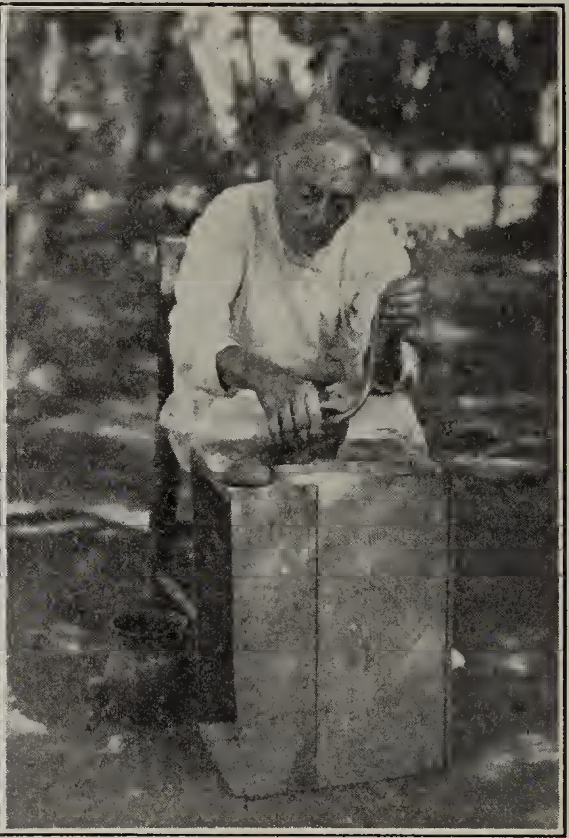
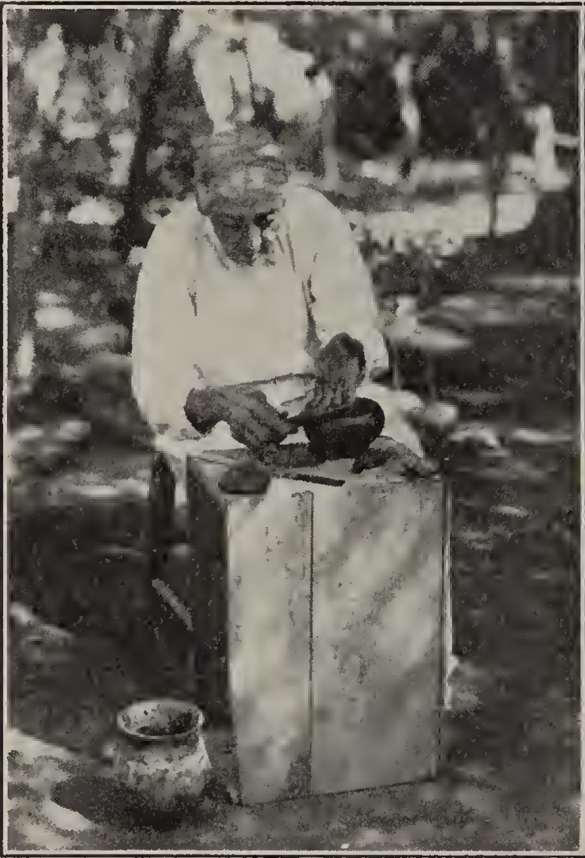


Fig. 7—DETALLE DE LA COLOCACIÓN DEL PRIMER RODETE



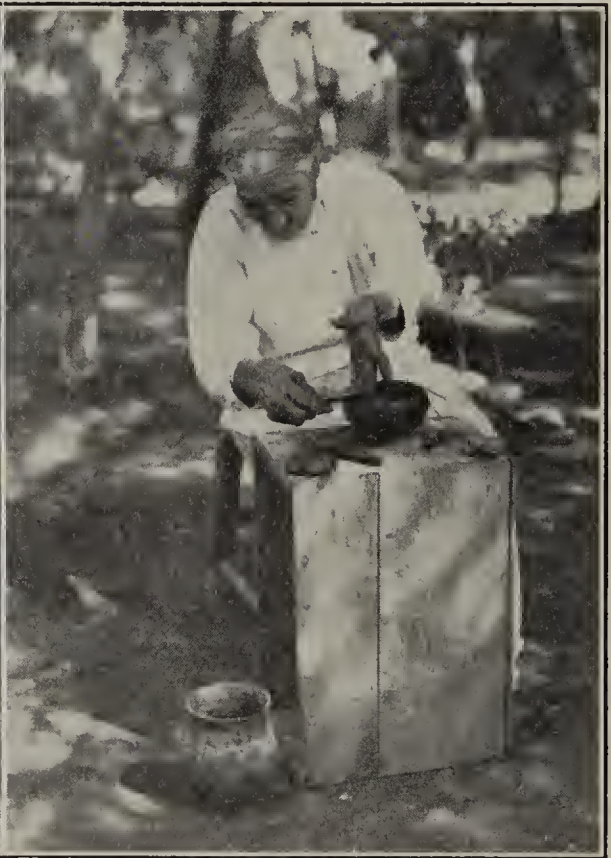


Fig. 8—ALISAMIENTO DE LA SUPERFICIE DEL VASO A FIN DE BORRAR TODA HUELLA DE UNIÓN ENTRE EL RODETE Y LA BASE. EN ESTA FOTOGRAFÍA APARECE DESPLEGADO TODO EL INSTRUMENTAL DE LA ALFARERA; FUERA DEL MASLO CON QUE TRABAJA, SE ADVIERTEN, EN PRIMER PLANO, DOS FRAGMENTOS DE MATE DESTINADOS A PULIR EL INTERIOR, LUEGO LA ASTILLA DE CAÑA CON QUE SE BORRAN LAS ESTRIAS DEJADAS POR EL MASLO Y, FINALMENTE, EL FRAGMENTO DE CORDOBAN CON QUE SE MODELA EL BORDE

Fig. 9—ALISADO DE LA SUPERFICIE ESTERNA POR MEDIO DE LA CAÑA

La Figura 5 representa el cono a que he hecho referencia. Su base mide, poco más o menos, 115 mm. de diámetro y su altura alcanza sólo a 55 mm. La base es completamente plana por el continuo golpear contra la tabla, la superficie curva muestra con toda evidencia las huellas de la presión de la mano, el vértice es ligeramente truncado.

Luego, el cono se aplana intesamente hasta formar con él la base del vaso en ejecución. Toda una serie de enérgicas presiones digitales definen el círculo que ha de servir de asiento y precisan la dirección perpendicular de la pared de la vasija. En la Fig. 5b se muestra el interior de la misma pieza donde los pulgares han comenzado a ahondar la cavidad interior, el "buco," decía Doña Catalina, con sabroso arcaísmo.

La fundación así obtenida se sigue modelando hasta obtener una porción del vaso que corresponde a la mayor parte del vientre. En la Fig. 6 nuestra heroína ha arrimado hacia el frente de su mesa de trabajo la base de la ollita, ya terminada, y ha comenzado a preparar su primer rodete, éste tiene una longitud igual a la circunferencia de la sección del vaso que ha de ocupar.[3]

La Fig. 7 muestra claramente el procedimiento seguido para adherir el rodete y en la siguiente, se vé el aspecto del vaso en obra después de terminada su colocación. El rodete ha sido minuciosamente adherido por medio de una serie de presiones digitales contiguas y enérgicas.

A esta altura de la tarea se procede a alisar ambas paredes del vaso a fin de borrar toda huella de unión entre la base y el rodete y entra en juego el precario instrumental de Doña Catalina.

La pared externa se alisa con el maslo, Fig. 8, y toma el aspecto característico de la cerámica estriada, tan abundante en los yacimientos arqueológicos de Córdoba.

Este aspecto no agrada a nuestra alfarera y entonces interviene la astilla de caña con la cual se borran las estrías dejadas por el maslo (Fig. 9).

El interior de la vasija que no puede alisarse con elementos rectos se trabaja por medio de un pedazo de mate. En varias fotografías adviértense sobre la mesa de trabajo varios fragmentos de mate que Doña Catalina selecciona en cada caso para emplear el que mejor se adapta a la concavidad de la sección de pared que debe alisar. Cuando esta operación termina no se advierte el menor rastro del añadido y la porción de vasija obtenida parece de una sola pieza.

Creo oportuno incluir aquí un fragmento de alfarería estriada procedente de los yacimientos arqueológicos de esta región (Fig. 10). Es evidente que los

---

[3] Parece ser el procedimiento más corriente éste de los rodetes que circundan completamente el vaso.

La alfarera puneña que Boman observara empleaba tres pedazos de rodete en cada sección del vaso, su obra podría compararse a "la construction d'une coque de navire en fer ou d'une chaudière, les boudins d'argile n'ayant jamais plus du tiers de la longueur de la circonférence, et correspondant, dans cette comparaison, aux plaques en fer du navire ou de la chaudière" (Boman, *op. cit.*, p. 481).

Por el contrario, la alfarera guató que observara Koslowsky modelaba la pasta "en rollos, los que son agregados unos a otros por presión de los dedos. El objeto manejado de este modo, adquiere la forma de una espiral ascendente, correspondiendo a la parte media el diámetro mayor, y toma el aspecto, por la impresión dejada por los dedos, de una soga arrollada," Koslowsky, Julio, Tres semanas entre los indios Guatós, *Revista del Museo de La Plata*, tomo 6, 1895).

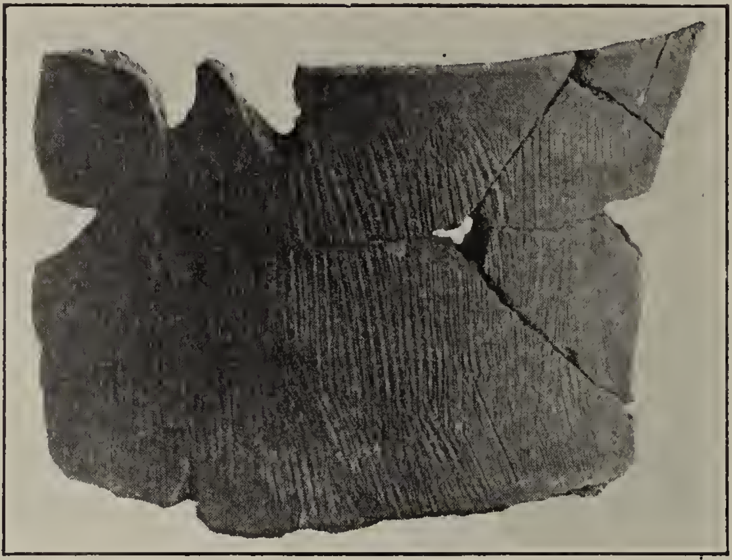


FIG. 10—DETALLE DEL ASPECTO DE LA SUPERFICIE DE UN VASO ALISADO CON MASLO. FRAGMENTO DEL CUELLO DE UNA GRAN URNA, PROCEDENTE DE UN YACIMIENTO ARQUEOLÓGICO PRÓXIMO A LOS LUGARES DE RESIDENCIA DE AMBAS ALFARERAS, RIO SECO, DEPARTAMENTO DE PUNILLA

aborígenes de Córdoba acostrumbraban a dejar sin alisar, de intento, parte o el todo de algunas vasijas atribuyendo cierto valor ornamental a las rayas dejadas por el maslo sobre la pasta fresca.

Es recurso conocido, en manos de primitivos, especular con el valor decorativo de algunos elementos constructivos, así se observa entre los restos arqueológicos del litoral paranaense una alfarería imbricada en la cual no sólo no se han borrado

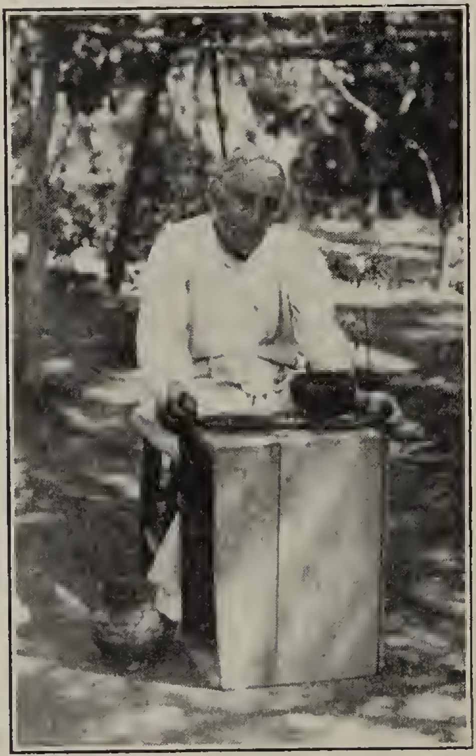


FIG. 11—EL SEGUNDO RODETE LISTO PARA SER COLOCADO DESPUES DE HABERSE IMPRESO LA SERIE DE ENTALLADURAS QUE FACILITAN LA ADHERENCIA DEL NUEVO RODETE AL ANTERIOR

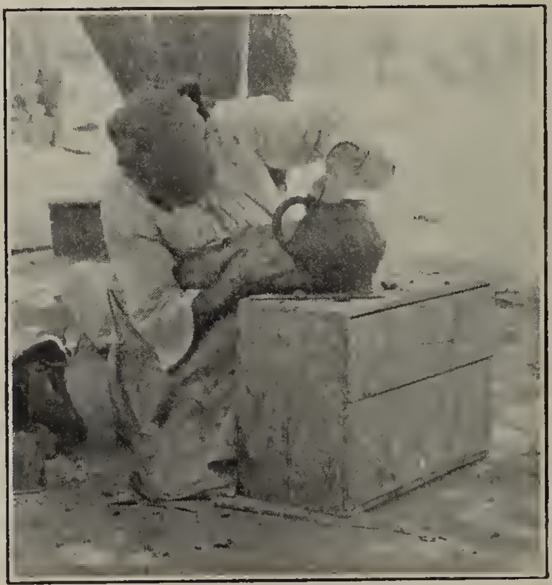


FIG. 12—EL EXTREMO DEL ASA ES REMACHADO POR EL INTERIOR DEL VASO

externamente las uniones de los rodetes, sino que se han exagerado las presiones digitales destinadas a unir unos con otros.[4]

En la alfarería moderna de Córdoba es raro ver rastros de maslo pero no faltan en absoluto. He visto vasijas fabricadas hace relativamente pocos años decoradas por tan rústico procedimiento.

Continuando con nuestra interrumpida descripción, encontramos nuevamente a nuestra informante en la Fig. 11. En la anterior vimos el vaso despues de agregado el primer rodete y el segundo ya modelado, pero a éste faltábale un detalle importante: la técnica de Doña Catalina dispone de recursos para hacer más eficaz la unión de los rodetes entre sí, evitando que sus vasos se fracturen separándose las bandas que los constituyen, como es frecuente en todas las alfarerías confeccionadas por este sistema. Adviértese claramente en esta fotografía que el rodete presenta una serie de entalladuras obtenidas por sucesivas presiones digitales, fácilmente obtenidas sobre la dureza de la tabla de trabajo y destinadas a facilitar la adherencia de este nuevo rodete al anterior.[5]

Fig. 13a—las piezas destinadas a cocerse caldeándose junto al fuego en que se calienta el agua para el mate

Fig. 13b—el fogón en plena actividad

La colocación se efectúa exactamente igual que en el caso anterior y en pocos instantes está terminada.

A esta altura de la tarea interviene eficazmente la hija de nuestra protagonista, preparando un mate provindencialmente reparador para sus exhaustas fuerzas. Actívase la tarea ante tan halagueña perspectiva, el alisamiento del segundo rodete se efectúa con gran rapidez y a poco andar saborea Doña Catalina su sabroso mate—dulce, a la usanza del pago—mientras amasa con su mano libre el último rodete.

Con la colocación del tercer rodete el modelado del vaso toca a su fin y la autora se esmera en repasar todo el alisado nuevamente, a fin de que ambas superficies se presenten bien unidas. Un pequeño pedazo de cuero mojado—un ''cordobán'' según su castizo decir—se emplea para modelar y alisar el borde; se pliega sobre la orilla del vaso, se hace girar éste lentamente y al mismo que se alisan ambas caras se de al borde la inclinación deseada.

---

[4] Confr. De Aparicio, Francisco, Notas para el estudio de la arqueología del sur de Entre Rios, *Anales de la Facultad de Ciencias de la Educación*, tomo 3, p. 46, Paraná, 1928.

Nordenskiöld, profundo conocedor de los pueblos chaqueños, ha podido observar entre ellos este procedimiento llevado a un grado de verdadera perfección (Confr. Nordenskiold, Erland, La vie des indiens dans le Chaco, *Revue de Géographie*, tomo 6, París, 1912).

[5] Linné ha recordado otros procedimientos destinados a idéntico fin: ''In order to ensure the better joining of the first coil to the already formed bottom slab, the second coil to the first, and so on, the Carajá made in each a longitudinal groove. In the building, the coil was laid on with this groove downwards so that it partly encompassed the edge of the underlying coil. On the same principle the Indians on the Calilegua Mountain in northern Argentina fashioned the upper side of each coil into small, spiny projections which were pressed into the one next above,'' (Linne, S., *op. cit.*, p. 78).

Realizada esta operación, el modelado de la vasija ha terminado y tambien las fuerzas de su autora.[6]

La vasija representada en la Fig. 2 está provista de asa. La colocación de este accesorio constituye un detalle interesante de técnica alfarera que no quiero pasar por alto. Terminado el vaso, Doña Viviana prepara el asa del mismo modo que uno de los rodetes, lo aplana un poco, lo abre en forma de boca en uno de sus extremos, lo coloca como mordiendo el borde de la vasija y lo adhiere prolijamente en ambas caras. Para adherir el otro extremo perfora la pared del vaso con ayuda del maslo, lo introdeuce y remacha luego por la cara interna hasta obtener una unión perfecta (Fig. 12). En el croquis (Fig. 14) represento gráficamente este sistema de colocación de asas.

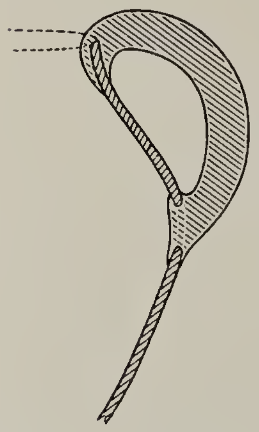


FIG. 14 — CROQUIS DEMONSTRATIVO DE LA TÉCNICA EMPLEADA PARA LA COLOCACIÓN DEL ASA

El procedimiento de cocción lo he documentado también en Charbonier en casa de Doña Viviana. Es menester, naturalmente, dejar secar por completo una pieza de cerámica despues de modelada. Cuanto más lentamente se realice este proceso menor será el riesgo de fractura. Comúnmente se coloca el vaso en el interior de las habitaciones y en lugar resguardado del aire. Cuando han transcurrido varios días y la alfarera estima que el barro está bien seco puede activarse el secamiento colocando la pieza al aire libre a aún al sol.

Tanto los informes que he recogido, como la cantidad de material arqueológico que he examinado demuestran con toda evidencia que el uso del horno ha sido siempre desconocido en la región.

Los pobladores actuales sólo tienen noticia del empleo de un fogón de piedra análogo al que usan las dos alfareras que he alcanzado a conocer. El combustible empleado es la ''leña de vaca,'' culto eufemismo con que designan al estiercol los criollos serranos. El de otros animales es también utilizable pero lo consideran de calidad muy inferior. El de cabra es preferido para la obtención de cerámica negra, procedimiento del cual me ocuparé en otra oportunidad.

El rústico fogón consiste, simplemente, en un círculo de piedras formado sobre el suelo, más o menos grande según el tamaño y número de objetos que se desea cocer, destinado a aumentar y mantener el calor producido por el fuego. Antes de colocar las piezas enciéndese en el interior una buena cantidad de ''leña'' a fin de que haga brasa y de que el piso y paredes del fogón adquieran una elevada temperatura. Entre tanto las piezas que han de cocerse, ''van caldeándose'' junto al fuego donde permanentemente ''hirve'' el agua para el mate, pues no es conveniente colocarlas frías en el fogón donde han de cocerse (Fig. 13).

---

[6] Intencionalmente no he querido registrar el tiempo empleado en la confección de este vaso. La precaria salud de Doña Catalina obligábala a trabajar con extraordinaria calma, según su propia declaración. ''Más antes,'' decía con frecuencia al terminar una operación, ni tiempo para sacar la ''vista'' le habría dado. En realidad la pobre vieja tiene ya una mano completamente paralizada y solo interviene en la tarea a guisa de ''testigo,'' como ella misma comentaba con singular ocurrencia.

Llegado el momento oportuno se retiran las brasas del fogón, se colocan las vasijas, se cubren totalmente con las brasas y éstas con una apreciable cantidad de estiercol que se va renovando a medida que se consume. En realidad es el estiercol mismo el que oficia de pared de horno. Cada vez que éste al consumirse deja en descubierto una parte de la vasija ésta se oxida inmediatamente en ese punto, se ''quema'' como dicen ellas, quedando afeada con una desagradable mancha negra que desmerece notablemente su calidad.

Todo el cuidado de la cocción consiste, pues, en mantener el fuego siempre cubierto de combustible a fin de evitar la formación de corrientes de aire. Cuidado que en la práctica se realiza en forma harto deficiente porque la gran mayoría de los vasos pertenecientes a esta industria presentan numerosas manchas de esta índole.

La operación dura aproximadamente veinte minutos. La alfarería así cocida no lo está, sin duda, con excesiva perfección. El calor sólo ha actuado sobre las paredes del vaso; fracturándolo, se advierte que su estructura tiene el mismo aspecto que la alfarería de los yacimientos arqueológicos de esa región: una amplia zona central negra y dos ligeras zonas periféricas rojizas. Es decir que sólo han adquirido cierto grado de cocción las dos caras del vaso, quedando la casi totalidad del espesor de la pared completamente cruda.

Forma General de los Vasos

Los dos vasos de cuya confección aquí me ocupo y el que utiliza Doña Catalina como depósito de tierra y aparece en todas las fotografías junto a su mesa de trabajo, (obra suya de mejores tiempos) guardan una estrecha analogía en su forma general.

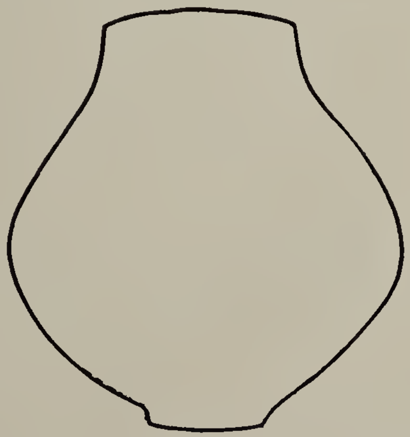


Fig. 15—forma general de un vaso extraído del yacimiento arqueológico situado en las márgenes del lago San Roque

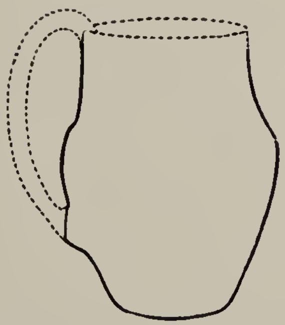


Fig. 16—forma general de un pequeño vaso extraído de un yacimiento arqueológico próximo a San Esteban

Este tipo de vaso se repite sin variantes notables en la casi totalidad de las piezas de alfarería moderna que aún perduran en los ranchos serranos de Córdoba como últimos representantes de una industria desaparecida.

Una forma repetida con tanta insistencia, en lugares distantes entre sí, y en objetos fabricados en épocas distintas es presumible que tenga un fuerte valor tradicional.

Los vasos subglobulares de amplio vientre son comunes entre los restos arqueológicos del noroeste argentino.

En los yacimientos arqueológicos de la sierra de Córdoba, desgraciadamente, no se encuentran vasos enteros. Sólo tengo noticia del hallazgo de dos vasos en tan amplia región geográfica. Uno de ellos existe en la colección particular de un aficionado y sólo conozco de él una fotografía cuyo perfil he calcado y publico en la Fig. 15. El otro forma parte de mis colecciones, es el único vaso más o menos entero que he podido conseguir en mis largas y minuciosas exploraciones; trátase de una pequeña vasija de 11 centímetros de alto, aproximadamente, cuya forma general reproduzco en la Fig. 16.

Es evidente que la forma general de ambas piezas responde a un tipo análogo a la de los vasos modernos de cuya confección aquí me ocupo.

Pulimento y Decorado

Al ocuparme de los restos de alfarería extraídos de los yacimientos arqueológicos de las sierras de Córdoba y de San Luis[7] he llamado la atención acerca de la escasez y de la baja calidad de la alfarería decorada, obtenida siempre por medio de incisiones, siendo desconocida la decoración pintada.

La tradición de este tipo de ornamento se ha perdido por completo. Así también la práctica, constructiva y ornamental, tan en uso en tiempos prehispánicos, de emplear moldes de canastería, a pesar de que ésta industria se encuentra aún muy difundida entre los rústicos pobladores de la sierra.

Entre los numerosos vasos de alfarería moderna que he podido observar en Córdoba, los ejemplares decorados cuentan en muy escaso número y su ornamentación, pintada siempre, no representa, a mi juicio, el vestigio de una vieja cultura sino que se debe a influencias de objetos de manufactura ciudadana y quizá europea. Los vasos decorados, por consiguiente, a más de excepcionales son de dudoso interés tradicional y no creo oportuna su inclusión en esta breve noticia; en otra oportunidad he de volver sobre ellos.

Las vasijas simplemente pulidadas son así mismo escasas, pero este trabajo se efectúa hoy en forma muy primitiva también: frotando la superficie de los vasos, antes de ser cocidos, con un pequeño fragmento de piedra muy pulido y destinado especialmente a este objeto. Tan somero trabajo da a las piezas un aspecto de artículo de calidad superior, la superficie tórnase tersa y tan roja que podría tomarse por el resultado de la aplicación de una materia colorante.

No cabe la menor duda acerca de la procedencia indígena de esta técnica porque — aparte de ser conocida en otras regiones del continente — he extraído de un yacimiento arqueológico de Córdoba una piedra de pulir idéntica a la que usaba Doña Viviana, actualmente en mi poder.

---

[7] Confr. De Aparicio, Francisco, Investigaciones arqueológicas en la región serrana de la provincia de Córdoba, *Anales de la Sociedad Argentina de Estudios Geográficos "Gea,"* Buenos Aires, 1925; Investigaciones arqueológicas en la region serrana de la provincia de San Luis, *Atti del XXII Congresso Internazionale degli Americanisti,* vol. 1, pp. 453–466, Roma, 1928.

Las ollas se pulen casi exclusivamente con el objeto de cocerlas por el procedimiento especial destinado a la obtención de cerámica negra del cual me ocuparé en otra oportunidad.

Conclusión

La técnica de fabricación de cerámica de que doy noticia en esta breve comunicación es, a mi juicio, de un indudable valor tradicional.

El procedimiento, universalmente conocido entre los pueblos primitivos, no presenta ningún detalle que pueda atribuirse a influencia europea. Y es curioso observar que las dos alfareras que aquí presento — personas de cultura muy superior a la de un aborigen — no han incorporado a su instrumental ningún objeto de manufactura fabril, a pesar de que los usan diariamente en apreciable cantidad para todas sus necesidades. (Doña Viviana solía usar una vieja cuchara de plomo para alisar el interior de las ollas, pero sólo circunstancialmente cuando carecía de mates.)

Esta técnica, en cambio, presenta matices de verdadero interés local como el relativo a la manera de comenzar el modelado del vaso.

Paraná, República Argentina.

CHRISTOPHER COLUMBUS AND ABORIGINAL INDIAN WORDS

By The Reverend James Williams

CHRISTOPHER COLUMBUS left the bar of Saltes which divides the river of Palos, the Río Tinto, from the Río Odiel, with his three vessels, the Santa María, which became the Capitana or Admiral's ship, the Pinta, and the Niña, at 8 a.m. on Friday, August 3, 1492,[1] and discovered the first land of the New World at 2 a.m. on Friday, October 12.[2] He left Haiti on his return voyage, Wednesday, January 16, 1493,[3] reached Lisbon, Monday, March 4,[4] left at 8 a.m. on Wednesday, March 13,[5] and arrived at Saltes, on the flowing tide, at midday on Friday, March 15.[6]

We have as authorities for this First Voyage:—The Spanish Letter to Luis de Sant'Angel,[7] printed at Barcelona early in April, 1493; it bears the date February 15, with a postscript of March 14, which, however, Navarrete decides must be March 4.[8] The Latin Letter to Gabriel Sanchis,[9] published in Rome the same year. The Decades,[10] and Letters[11] of Peter Martyr; the former first published, surreptitiously, April 10, 1504, in the Venetian dialect, having been translated from the Latin by Angelo Trivigiano; published in Latin, also without authority, in 1511; and given to the world in Three Decades by the author in 1516. The Epistolæ were published at Alcalá in 1530.

---

[1] Navarrete, Don Martin Fernandez, *Coleccion de los Viages y Descubrimientos*, . . . vol. I, Madrid, 1825, p. 3 (cited Nav.); Rayon, Marqués de la Fuensanta del Valle y D. José Sancho, vols. LXII, LXIII, LXIV, etc, Madrid, 1875; de Las Casas, Fr. Bartolomé, *Historia de las Indias*, see LXII, pp. 260–1.

[2] Nav., *op cit.*, vol. I, p. 20.

[3] *Id.*, vol. I. p. 139.

[4] *Id.*, vol. I, p. 162.

[5] *Id.*, vol. I, p. 165.

[6] *Id.*

[7] *The Spanish Letter of Columbus to Luis de Sant'Angel*, printed at Barcelona early in April, 1493, Quaritch, London, 1891.

[8] Nav., *op. cit.*, vol. I, p. 175.

[9] *The Letter of Columbus on the Discovery of America, a Facsimile of the Pictorial Edition, with a new and literal translation, and a complete Reprint of the Oldest Four Editions in Latin*, The Lenox Library, New York, 1892.

[10] *Libretto De Tutta La Nauigatione De Re De Spagna De Le Isole Et Terreni Nouamente Trouati.* . . . Stampado in Venesia per Albertino Vercellese da Lisona a di. x. de aprile .M.ccccc.iiii. (Thacher, vol. II, pp. 457, 485.)

P. Martyris angli mediolanensis opera Legatio babylonica Occeani decas Poemata Epigrammata. . . . Impressum Hispali cû summa diligencia per Jacobû corumberger alemanû. Anno. Millessimo quingentessimo. xj. mêse vero Aprili.

De orbe nouo Decades. . . . Cura & diligentia uiri celebris Magistri Antonii Nebrissensis historici regii fuerunt hae tres protono tarii Petri martyris decades Impessæ in contubernio Arnaldi Guillelmi in Illustri oppido carpetanæ puî ciæ côpluto quod uulgariter dicitur Alcala pfectû est nonis Nouêbris An. 1516.

[11] *Opvs Epistolarû Petri Martyris Anglerii Mediolanẽsis* . . . . Côpluti Anno dñi. M. D. xxx.

The first book of the first Decade has the date November 13, 1493, and gives an account of the first voyage. Numbers 134 and 139 of the Letters are dated respectively September 13 and November 1 of the same year. Navarrete in 1825 published the *Journal of the First Voyage,* and Las Casas, in his *Historia de las Indias,* gives it in rather a fuller form. Thacher's three volumes[12] are a storehouse of information concerning the early authorities.

Thacher reminds us[13] that Peter Martyr's letters

> ''were written immediately after the events they describe. They bear the first news. They reflect first impressions. Personal correspondence with the Admiral, interviews with his sailors, conversations with his companions, a knowledge of the Court side of affairs—all these things equipped this author for his work. He tells what he knew, what he saw, what he heard.''

Columbus started on his Second Voyage before sunrise on Wednesday, September 25, 1493, with seventeen vessels, from the Bay of Cadiz.[14] He sighted the island of Dominica at dawn on Sunday, November 3.[15] On February 2, 1494, he sent home from Haiti a fleet of twelve vessels under the command of Antonio de Torres, who, according to Las Casas, reached Cadiz on April 8 or 10, having had a good and quick voyage.[16] They brought from Columbus a Memorial, dated Haiti, January 30, 1494,[17] and a letter from Doctor Chanca,[18] which must have been written at about the same time.

Peter Martyr in the second book of the First Decade, under date of April 29, 1494, gives to Cardinal Sforza the early news of the Second Voyage which he had gleaned doubtless from the letter he had received from Columbus, whom he calls an intimate friend, and from his interview with de Torres and others of the returned fleet.[19] Numbers 143, 147, and 153 of the Epistolæ, dated in October and November of 1494, and the pamphlet of Nicolò Syllacio,[20] dated Pavia, December 13, of the same year, also give this early news of the Second Voyage. Columbus himself returned on June 11, 1496.[21]

The third book of Peter Martyr's First Decade, which is dated April 23, 1500, gives particulars of the Second Voyage, and introduces his correspondent to Diego Columbus, a native of Guanahaní, who had been Columbus' companion since 1492, and was now his interpreter. Peter Martyr's Letter, No. 177, dated June 13, 1497, mentions a certain Ramon who had been discovering some of the beliefs and customs in Haiti, and Letter, No. 180, dated the twenty-seventh of the following July, refers to some of these customs, without, however, again naming Ramon. Therefore Ramon must have gone with Columbus on his second voyage in 1493. Las Casas says[22] that his father, Pedro de Las Casas, and his uncle, his father's brother, Francisco de Peñalosa, also went with Columbus on the same voyage; the uncle came back, but the father did not start to return to Spain until October 18, 1498.[23] Las Casas states that he himself went to Haiti five years after Fray Ramon,[24] which probably means with Columbus on his third voyage,[25] but as he did not go to Paria,[26] and obtained information respecting this voyage from Bernaldo de Ibarra,[27] it would seem that he must have been on board one of the three vessels sent on direct by Columbus from the Canaries,[28] and would have arrived at Haiti before Columbus and in time to see his father before the latter's departure.[29]

---

[12] Thacher, John Boyd, *Christopher Columbus,* three vols., New York, 1903.

[13] *Id.,* vol. II, p. 440.

[14] Nav., *op. cit.,* vol. I, p. 199: Las Casas, *Hist. Ind.,* LXIII. p. 3.

[15] Las Casas, *Hist. Ind.,* LXIII, p. 5.

[16] *Id.,* p. 90.

[17] Nav., *op. cit.,* vol. I, p. 225.

[18] *Id.,* p. 198.

[19] Martyr, Peter, *op. cit.,* Edition, 1511, Dec. I. Lib. 2. fol. d ij: Quarto nonas Ap̄lis igitur dux ipse classis fr̄ nutricis primogeniti regij a prefecto maritimo destinatus acessit: ab eo ceterisqz simul fide dignis hominibs q̄ mihi p ordinē īterrogati fuerūt ut tibi gratū faciā enarrata recēsebo: accepi etenī ego q̄ d̄derūt: q̄ aūt d̄derūt cognosctito.

[20] *Nicolaus Syllacius De Insulis Meridiani atque Indici Maris Nuper Inventis.* With a translation into English by the Rev. John Mulligan, A.M., New York, 1859, p. 99: Vale ex papia Idibus decembribus, Mccccl xxxxiiij.

[21] Las Casas, *op. cit.,* LXIII, pp. 125, 127.

Andrés Bernáldez, parish priest of the Villa de los Palacios, near Seville, from 1488 to 1513, tells us[30] in his *Historia de los Reyes católicos,* that Columbus came to Seville on March 31, 1493, the day being Palm Sunday; he was well received there, and left there four Indians, taking six others on to Barcelona to show to the King and Queen. Then in 1496 Columbus was the guest of Bernáldez, and in the presence of another guest, the Señor Don Juan Rodriguez de Fonseca,[31] Bishop of Badajós, left him some of his writings, and these, with others of Doctor Chanca and other noble gentlemen who had written of what they had seen, served him for his account of the Indies. He also had as guest the Indian, Don Diego Colomb, who at this time is said to have been about thirty-five years old.[32] The fourth book of Peter Martyr's First Decade continues the account of the Second Voyage.

Columbus started on his Third Voyage with six vessels from San Lúcar de Barrameda, on the Guadalquivir, on Wednesday, May 30, 1498.[33] He discovered Trinidad on Tuesday, July 31,[34] and after that the South American coast of Paria.[35] He wrote an account of this discovery to his Sovereigns[36] which presumably was sent on from Haiti, perhaps by the vessels which sailed for Spain on October 18, 1498. The fifth book of Peter Martyr's First Decade relates the happenings in Haiti during the absence of Columbus; the sixth and seventh books give an account of this voyage. Columbus arrived at Cadiz on his return, as a prisoner, on November 20 or 25, 1500,[37] and soon after wrote a letter to the sister of Antonio de Torres.[38] Las Casas gives an account of this voyage.

---

[22] *Id.*, LXII, p. 498.

[23] *Id.*, LXIII, p. 340.

[24] *Apologética Historia de las Indias de Fr. Bartolomé de las Casas,* Serrano y Sanz, M., Madrid, 1909, chap. 67, p. 446.

[25] Nav., *op. cit.*, vol. I, p. 245.

[26] Las Casas, *Hist. Ind.*, LXIII, p. 239.

[27] *Id.*, p. 234.

[28] *Id.*, pp. 310–312; 220–223.

[29] *Id.*, pp. 178, 311, 317; Cf. Thacher, *op. cit.*, vol. I, p. 115; Helps, A., *Life of Las Casas,* London, 1868, p. 1.

[30] Bernáldez, Andrés, *Bibliófilos Andaluces, Historia de los Reyes Católicos,* Sevilla, 1869, two vols. See vol. I, p. 369; vol. II, pp. 43, 78.

[31] Las Casas, *Hist. Ind.*, LXIII, p. 197.

[32] Bernáldez, *op. cit.*, vol. II, p. 78.

[33] Nav., *op. cit.*, vol. I, p. 245; Las Casas, *Hist. Ind.*, LXIII, p. 220.

[34] Nav., *op. cit.*, vol. I, p. 247; Las Casas, *Hist. Ind.*, LXIII, p. 229.

[35] Nav., *op. cit.*, vol. I, p. 250; Las Casas, *Hist. Ind.*, LXIII, p. 237.

[36] Nav., *op. cit.*, vol. I, p. 242–264.

Columbus set sail on May 11, 1502,[39] from Cadiz, with four vessels on his Fourth and last Voyage. A letter of his to the Sovereigns is dated from Jamaica, July 7, 1503.[40] He returned to San Lúcar on Thursday, November 7, 1504,[41] and on the twenty-fourth of the same month Queen Isabel died.[42] On the Feast of the Ascension, May 20, 1506, Columbus himself died, his last words being "in manus tuas, Domine, comendo spiritum meum."[43]

Las Casas[44] regards the testimony of Peter Martyr as peculiarly reliable in all that relates to the *early* history of America, as he many times interviewed Columbus himself, and others who took part in the first voyage. Navarrete[45] remarks on the necessity of examining the contemporary writings of those who knew him and had dealings with him, if the life and achievements of Columbus are to be correctly and impartially related, and he names Bernáldez, Peter Martyr, Las Casas, Ferdinando Colombo, and Oviedo. Thacher[46] calls attention to some words of Las Casas, in connection with the entry in the Journal for January 13, 1493:—

> "although I believe that *the writing* is wrong in this, through the error of the *one who transcribed it from the book of navigation of the Admiral,*"

and suggests that Las Casas had the assistance of another hand in making the abridged copy of the Journal, or that at the time, 1542, he was depending not on the original holograph Journal, but on a copy which he had caused to be made.

The Journal of the First Voyage as given by Navarrete,[47] is from an original in the handwriting of Las Casas who had possession of many of the papers written by Columbus, and, although, it may conceivably contain a few errors, yet its most striking characteristic must surely be found in its transparent truthfulness. There is the sailor's anxiety[48] not to anchor at night for fear of shoals, or lest an unsuitable bottom should foul the anchors; there is the explorer's idea,[49] natural perhaps to the student of Marco Polo, that he has reached Cipango, *i.e.,* Japan; then we have the various details, so life-like, of the native populations: they swim to the ships;[50] they offer gifts[51] of parrots, cotton thread in balls, spears; they use cotton nets for sleeping in;[52] paint their naked bodies black, white, red;[53] they wear in the nose a gold or silver ornament;[54] tamed small birds are seen in their houses;[55] when on a journey, or when they go out at night, they carry about a firebrand;[56] and they count *by naming* more than a hundred islands.[57] We are told of their quick learning of Christian prayers,[58] of the first difficulties in the way of a mutual understanding owing to the difference of languages, and how these were lessened after some days of intercourse.[59] The present writer remembers a lad of the Makuchi tribe in South America counting the cattle coming out of a corral; his method was, not to count by number, but by some name or description by which he recognized each animal. Such details as these serve to convince the unprejudiced mind having some knowledge of American Indians that we have here a trustworthy document undoubtedly issuing from Columbus himself, the result of a daily written account of his first most momentous voyage. The details of the Discovery come from Columbus, from his companions, and from the Indians he brought over, they are eagerly sought for, talked over, and diffused by the most learned men of the day, who are not students only, but men of affairs taking an active part in the life of the civilized world.

---

[37] Las Casas, *Hist. Ind.,* LXIII, p. 501.

[38] Nav., *op. cit.,* vol. I, pp. 265–276.

[39] *Id.,* p. 282.

[40] *Id.,* p. 312.

[41] Nav., *op. cit.,* vol. I, p. 287.

[42] Altamira, Rafael, *Historia de España,* Barcelona, vols. I–III, 1913; vol. IV, 1914. See vol. II, p. 399.

[43] Las Casas, *Hist. Ind.,* LXIV, p. 194.

[44] *Id.,* LXII, p. 32, Prólogo.

[45] Nav., *op. cit.,* vol. I, p. lxvi.

[46] Thacher, *op. cit.,* vol. I, p. 643.

[47] Nav., *op. cit.,* vol. I, p. 1.

[48] *Id.,* p. 25 (Oct. 15); p. 28 (Oct. 16).

[49] *Id.,* p. 38 (Oct. 23).

A certain Professor Leo Wiener[60] has written a work in three volumes, in which he seeks to prove that already before the discovery of America by Columbus, African influence had been at work on the languages, beliefs, and customs of the inhabitants of the New World, and that tobacco, manioc, sweet potatoes, peanuts, etc., both article and name, are of African origin. His work contains a brief attempt at proving the early arrival of the Negroes, some pages of accusations against Columbus, a large amount of erudition, and some remarkable philology.

The Journal of the First Voyage, says Wiener, has been altered by an editor to such an extent that it is not easy to judge of Columbus' veracity![61] It was a clever forger or ignoramus who, with the aid of Columbus' own statements, composed it. Columbus lied every time he said that the Indians he had with him told him so and so. The account of January 13, 1493, is ''balderdash.'' Because Wiener thinks that in Bernáldez, the word *Guani* might be read as the name of an island, therefore the Journal of the First Voyage was edited or corrected after the text on which Bernáldez based his account of the second voyage was known. Hence, the blunder, as Wiener calls it, on January 13. We are told "of the atrocious forgery known as the First Letter." He says that the Latin Letter, translated by Cosco, lies at the foundation of the Spanish Letter: the Reale Commissione Colombiana[62] thinks it probable that Cosco translated from one copy of the original letter, while the Spanish Letter is probably a copy of another copy of the same original. Wiener[63] says:—

---

[50] *Id.*, p. 24 (Oct. 14).

[51] *Id.*, p. 23 (Oct. 13).

[52] *Id.*, p. 31 (Oct. 17).

[53] *Id.*, p. 21 (Oct. 12); p. 37 (Oct. 22).

[54] *Id.*, p. 32 (Oct. 17); p. 46 (Nov. 1).

[55] *Id.*, p. 43 (Oct. 29).

[56] *Id.*, p. 19 (Oct. 11); p. 51 (Nov. 6).

[57] *Id.*, p. 25 (Oct. 14).

[58] *Id.*, p. 46 (Nov. 1); p. 54 (Nov. 12).

[59] *Id.*, p. 25 (Oct. 14); p. 38 (Oct. 24); p. 41 (Oct. 28); p. 42 (Oct. 29).

[60] *Africa and the Discovery of America*, vol. I, 1920, vols. II, III, 1922, Philadelphia.

[61] *Id.*, vol. I, pp. 1, 3, 9, 22, 33, 35.

> "But here the editor of the Journal, following the series of blunders in the First Letter, as we shall presently see, committed the atrocious blunder of confusing Span. ambar with alambre, copper, and so Columbus is made to say that copper was found in the island of the women and in Goanin, and on January 15 the Journal in the same breath says that there was a great deal of copper in Carib and Matinino, although a few lines further down we are told that there was no iron or other metal in the island."

There is no such confusion. The Journal says, Sunday, January 13, 1493[64]:—

> "the Indian told him (Columbus) that there was a great deal of gold in that country, pointing out the poop of the caravel which was very large and indicating that there were pieces as large as that. . . . That Indian told him of the island of Matinino and said it was all settled by women without men and on it there was a great deal of *tuob* which is gold or copper (oro ó alambre), and that it is to the east of Carib. He also told of the island of Guanin where there is a great deal of *tuob*."

On January 15, we read[65]:—

> "he has learned . . . that on the island of Carib there was a great deal of copper (alambre) and in Matinino . . ."

Columbus does not appear to have visited either Carib or Matinino. Let us note here what he goes on to say, on the same day:—

> "He says they had no iron or other metal there" [i. e., in Hayti], "which could be seen, although in a few days much cannot be learned in regard to a country both on account of the difficulty of the language which he understood only by intuition and as the Indians did not learn what was asked of them in a short time . . . and it appeared to him that the bows were of yew-trees and that there is gold and copper (oro y cobre)."

Wiener charges[66] Las Casas with accusing the Indians of lying. What Las Casas actually writes is that Columbus showed the Indians cinnamon and Castille pepper and asked by signs whether they had any in their country, and they said they had. Las Casas says that these Indians might have made a mistake with respect to the pepper, as it is not unlike theirs, but that cinnamon never grew there; not a word about Indians lying. Even the boatswain of the Pinta said[67] he had found cinnamon trees, on the same day, although Columbus on going to see found they were not.

---

[62] *Raccolta di documenti e studi pubblicati dalla R. Commissione Colombiana,* parte I, vol. I, Roma, 1892, p. xxxvi.

[63] Wiener, *op. cit.*, vol. I, p. 35. Here Carib is said to be derived from Arabic *kahrubah,* which means amber; hence, the supposed blunder.

[64] Nav., *op. cit.*, vol. I, 134; Thacher, *op. cit.*, vol. I, 643.

[65] Nav., *op. cit.*, vol. I, p. 138; Thacher, *op. cit.*, vol. I, 646.

[66] Wiener, *op. cit.*, vol. I, p. 192; Las Casas, *Hist. Ind.*, LXII, p. 329:—'la pimienta, porque se parece á la pimienta montés de aquellas tierras, . . . bien pudieron engañarse diciendo que la habia, pero la canela, nunca se halló en todas estas islas.'

[67] Nav., *op. cit.*, vol. I, p. 48.

What evidence does Wiener bring forward in support of his theory that Negroes went to America before Columbus and influenced its languages, customs, and ideas?

1. Las Casas, writing of Columbus' third voyage, says,[68] under date of July 1, 1498:—

> "The Admiral says again that he wants to go south, as he believes . . . he will be able to find islands and lands; . . . and because he wants to see what was the meaning of King D. João of Portugal when he said that there was terra firma to the south; and for this reason he says that the king of Portugal had differences with the kings of Castille, which were settled when it was decided that the King of Portugal should have 370 leagues to the west, beyond the islands of the Azores and Cape Verde, which belong to him, from north to south, and from one pole to the other; and he says that King D. João considered it certain that inside those limits he was going to find many things and famous lands. Some of the more important inhabitants of that island of Santiago came to see him, and said that to the south-west of the island of Fuego, which is one of the said islands of the Cape Verde, . . . an island was seen, and that King D. João had a great wish to send an expedition to make discoveries towards the south-west, and that canoes had been known to go from the Guinean coast to the west with merchandise."

A Portuguese writer, J. Batalha-Reis,[69] discussing the nautical map of 1448, and two earlier articles dealing with it, says:—

> "The essential points established are, therefore, in my opinion, that in 1448 Andrea Biancho believed:—(a) That somebody had certainly seen an island, and perhaps landed on it. (b) That this island was, at least, wider from west to east than the distance say, between Cape Verde and the Arguin bank near the African coast; (c) That this island was south-west of Cape Verde; (d) At a great distance from it—in any case greater than 100 or 200 miles, and probably at 1500 miles."

As these points indicate the position of South America, therefore, so this writer contends, Biancho's "authentic island" proves that South America was discovered before 1448, and that canoes had gone from Guinea to this south-western land. Batalha-Reis concludes thus:—

> "The greater probability is, therefore, in my opinion, in favour of the supposition that the north-east corner of South America had been seen on or before 1448, although this cannot be affirmed with the same historical certainty with which we can affirm that, in 1492, Columbus landed on some of the Antilles."

This *probability* scarcely seems sufficient warrant on which to build so far-reaching a theory, as that of Negro influence preceding the 1492 discovery of America, especially when it is remembered that various strange names appeared on mediaeval maps, such as the Antillia, Brazil, San Borondón.

2. Las Casas,[70] under date of July 4, says that Columbus:—

> "thought to investigate the report of the Indians of this Española who said that there had come to Española from the south and south-east, a black people who have the tops of their spears made of a metal which they call *guanín*, of which he had sent samples to the Sovereigns

---

[68] Wiener, *op. cit.*, vol. II, p. 116; Las Casas, *Hist. Ind.*, LXIII, p. 225. (The English translation is that given by J. Batalha-Reis, see Note 69.)

[69] Batalha-Reis, J., The Supposed Discovery of South America before 1448, and the Critical Methods of the Historians of Geographical Discovery, *The Geographical Journal*, vol. 9, pp. 185–210, London, 1897. See pp. 188, 210.

[70] Wiener, *op. cit.*, vol. I, p. 34; Las Casas, *Hist. Ind.*, LXIII, p. 226.

to have them assayed, when it was found that of 32 parts, 18 were of gold, 6 of silver, and 8 of copper.''

Wiener comments on this thus:—

> ''There is no escaping the fact that Columbus knew that the guaní came from Guinea and that there had been merchants or voyagers in Hispaniola before him.''

He derives[71] the word *guaní* from *kani,* which means metal (gold or silver) in the Vei language of Africa. Now the term *gente negra* used by Las Casas is quite indefinite, the color may have been the blue-black dye of the *Genipa americana,* and the people who used it may have been Carib from the mainland; while the word *guanín* is expressly stated to be a word of the Indians of Haiti.

Wiener also says[72]:—

> ''The African slaves who swarmed in Spain and Portugal ever since the discovery of the Guinea Coast by the Portuguese, that is, since 1440, had become acquainted with the customs and vices of their surroundings and had carried these back to Guinea where they, as pombeiros, spread the new ideas into the interior, and, simultaneously, into the New World, which their masters, the traders, kept from the knowledge of the authorities, in order to carry on their illicit and profitable trade without molestation from the Portuguese government.''

It seems impossible to believe without further evidence in these large movements of slaves *from* Guinea *to* Portugal, then *back to* Guinea, some going into the interior of Africa, others forming part of large trading expeditions from Guinea to America, and all taking place unknown to the Portuguese government officials or anyone else.

3. Elsewhere Wiener says[73]:—

> ''The presence of Negroes with their trading masters in America before Columbus is proved by the representation of Negroes in American sculpture and design, by the occurrence of a black nation at Darien early in the XVI. century, but more specifically by Columbus' emphatic reference to Negro traders from Guinea, who trafficked in a gold alloy, guanin, of precisely the same composition and bearing the same name, as frequently referred to by early writers in Africa.''

A distinguished archaeologist, who has made a study of American antiquities, assures the present writer that no such representations of Negroes exist in the sculpture and designs of the New World. The facile way in which the previously quoted words of Las Casas[70] are here made to refer to a trafficking, when the original has nothing whatever about traders or trafficking, and the *on dit* of the Indians of Española is here turned into Columbus' emphatic reference to Negro traders from Guinea, is a specimen of the argumentation frequently found in this work.

4. Peter Martyr relates of the Spaniards that[74]:—

---

[71] *Id.*, vol. I, pp. 32, 33.

[72] *Id.,* vol. II, p. 119.

[73] *Id.,* vol. III, p. 365.

[74] *Id.,* vol. II, pp. 138; vol. I, p. 155; Peter Martyr, *op. cit.,* Edition 1516, Third Decade, Book 1. fol. f. iii: ''Mācipia ibi nigra repererūt ex regione distāte a quaréqua dierū spacio tantū duorū quæ solos gignit nigritas: & eos feroces atqz admodū truces. Ex æthiopia putāt traiecisse quōdam latrocinii causa nigritas: ī qz illis mōtibus naufragatos fixisse pedē. Cū his nigris odia exercēt intestina quaréquani: & sese seruitio addicūt uicissim aut trucidāt''; Wiener, *op. cit.,* vol. II, p. 138.

> "They found there black slaves from a district only a two days' journey from Quarequa, this produces only Negroes and they are fierce and very cruel. They think that the Negroes once crossed over from Ethiopia on a raiding expedition and that being shipwrecked they settled in those hills. The people of Quarequa engage in civil strife with these Negroes, and they mutually enslave or murder each other."

Gómara, who probably takes it from Peter Martyr, has a similar reference. Now Wiener admits that the explanations given by these writers as to the presence of Negroes in Darien in 1513 are of no consequence, as the conquerors could not understand the natives, and he refers to Herrera for dates in connection with the importation of Negroes into Haiti. On referring to Herrera,[75] we find that Nicolás de Ovando, on leaving Spain at the beginning of 1502 to take up his appointment in Haiti, was instructed not to permit Jews, Moors, or the newly-converted, to go to or be in the Indies, but to allow black slaves, born in Christian households, to pass over thither. In 1503, however, Ovando arranged that black slaves should not be sent Haiti, as they used to run away, go among the Indians whom they corrupted, and could not be captured. It is surely much simpler to suppose that between 1503 and 1513, Negroes from Haiti found their way, perhaps in stolen boats, perhaps carried by the Carib, to the mainland at Darien, than to suppose an immigration from Africa direct.

Henry Vignaud,[76] in 1922, the date of publication of Wiener's last volumes, investigates the evidence for the origin of man in America. He reviews the various theories which have been propounded, admits the possibility of some immigration of Polynesians from the west, but makes no mention of any immigration from Africa, and concludes thus:—

> "L'hémisphère occidental a été peuplé exclusivement par la seule race Jaune asiatique. Aucune autre race ne l'y a précédée et ne l'y a suivie. Le fait s'établit par l'absence de toute reste ethnique ou archéologique d'une autre origine."

These slender proofs of a pre-Columbian African immigration are supplemented, as we have seen, by unworthy attempts to disparage the accumulated evidence of Columbus received and dispersed by learned men in Spain with first hand opportunities of knowledge, are re-enforced by suggestions that the aborigines eagerly adopted foreign words in place of their own, that some words called aboriginal arose from a mistaken reading of the words in old Mss., and that certain articles, hitherto supposed to be American, were really prior products of African soil.

The fact that foreign words were adopted by the aborigines for foreign articles is, of course, natural and well-known. The Penard Brothers, whose knowledge of the Arawak language is, today, probably surpassed by none, in an article by two of them say[77]:—

> "The Indian borrowed from the European only names of objects new to him, but the negro took many of the most common-place terms, for which he must already have had proper equivalents. . . . This difference in the character of words taken by the negro and the Indian is not one of

---

[75] Herrera, Antonio de, *Historia General de los Hechos de los Castellanos* . . . , vols. I, II, 1601, vols. III, IV, 1615, Madrid. See vol. I, pp. 150, 180.

[76] Le Problème du Peuplement initial de L'Amérique, *Journal de la Société des Américanistes de Paris,* vol. XIV, pp. 1–63, 1922. See pp. 52, 62.

[77] Penard, Thomas E., and Arthur P., *European Influence on the Arawak Language of Guiana,* The Hague, August, 1926, pp. 165–176 of 'De West-Imdische Gids.'

accident. It has a much deeper meaning. It demonstrates most convincingly on the one hand the black man's ready response to new conditions and on the other the red man's unyielding attitude.''

In the examination of specific words said to be aboriginal American we must, of course, admit the possibility of perfectly honest mistakes being made, the same still occurs. Sir Everard F. im Thurn, in an early publication,[78] says that the Arawaks now say hammock, *i.e.,* use, as he then supposed, an English word instead of their own. Doctor Walter E. Roth[79] derives the word savannah from the Spanish word for sheet, *sábana.* And Sir Richard Burton (or the translator),[80] turns the *Genipa americana* into the *Carica papaya.*

Columbus' Journal gives the following words under the respective dates: October 12, Lucayos: *Guanahaní;* October 23, *Cuba;* October 26, *canoas.* On October 28, Columbus reached Cuba and now we have: November 1, *nucay;* November 3, *hamacas;* November 4, *Bohio;* November 23, *Canibales;* November 26, *Caniba* or *Canima.* On December 6 they reached Haiti, and we have: December 11, *Caritaba;* December 13, *Cariba;* December 16, *ajes;* December 17, *cacique;* December 23, *Nitayno;* December 24, *Civao;* December 26, *cazavi.* January 13, on another part of Haiti, *Tuob, caona, nozay, Goanin;* and some proper names on December 29, 30, and January 6. Many or all of these words and perhaps several others must have reached Europe with Columbus, his crews, and his Indians. The first word to be published was:—

Canoa. This word appears in the Spanish Letter to Luis de Sant'angel, 1493. Wiener assumes that the word in the original MS. was *scaphas,*[81] because had the word *canoa* actually been there, it must have appeared in the Latin Letter; then *scaphas* written in Gothic text was misread as *canoas,*

> ''producing the ghost word which has gone down in history as the first Indian word to reach Europe . . . (and) the Indians, who had no compunction in accepting foreign words for native objects, . . . gladly accepted canoa as the proper word for their canoes, but the word did not penetrate far beyond the coast, and in the interior it is found only sporadically.''

One Hanibal Januarius wrote[82] to his brother a letter dated, ''Barcellone. die viiij Martij, 1493.'' in which he says:—

> ''In deste Insulle hanno trovato secondo dicono pepe, legume, aloe & mena de oro per li fiumi, . . . Et le gente della, dice navigano con canne, le quale sono si grande che le mayore capeno in epsa LXX & LXXX. homini.''

Harrisse points out that the date must be April 9, not March 9. Peter Martyr has the word in his letter, dated November 13, 1493, and we may perhaps conclude that he knew perfectly well which was an Indian word and which was not.[83]

---

[78] *Tables of Indian Languages of British Guiana,* Compiled by im Thurn, Everard F., Georgetown, Demerara, 1878.

[79] *Richard Schomburgk's Travels in British Guiana 1840–1844,* Translated by Roth, Walter E., vol. I, 1922; vol. II, 1923, Georgetown, Demerara. See vol. II, p. 3.

[80] *The Captivity of Hans Stade of Hesse,* Translated by Tootal, Albert, and annotated by Burton, Richard F., Hakluyt Society, London, 1874, p. 165. The original edition, 1557, has (vol. II, chap. xxxvij): 'Es sein da beume welche die wilden Iunipappeeywa nennen, auff denselbigen baumen wechst eyn frucht eynem apffel nicht sehr vngleich. . . .'

[81] Wiener, *op. cit.,* vol. I, pp. 48, 49, 43.

[82] Harrisse, Henry, *Christophe Colomb,* vol. II, Paris, 1884, p. 9.

Ajes. Peter Martyr has this word in Epistola, No. 134, dated Barcelona, September 13, 1493. What does this word represent? The Journal, December 16, says[84]:—

> "All this island and the island of Tortuga are entirely cultivated like the field (arable land) at Cordova. They have the fields sown with ajes which are little branches which they plant, and at the foot of them small roots grow like carrots which serve as bread, and they grate them and knead them and make bread of them and afterward they plant the same little branch again in another place and it again produces four or five of those roots which are very palatable, and taste exactly like chestnuts. These which grow here are the largest and best he had seen anywhere, as he also says that he had them in Guinea. Those which grew in this place he says were as thick as the leg."

Before this, on December 13, we read:—

> "The Christians said that after they were entirely freed from fear they all went to their houses, and each one brought them some of whatever they had to eat, which was bread of niames which are roots like large radishes, which they sow and which grow and are planted in all their lands, and upon which they live: and they make bread of them and boil and roast them and they taste like chestnuts, and there is no one who does not believe, in eating them, that they are chestnuts. They gave the Christians bread and fish and whatever they had."

The explanation is simple. Columbus saw roots from which bread was made, he called them *ñames, i.e.,* yams, as they looked rather like roots he had seen in Africa; he heard the native word *ajes,* and at first understood it as referring to these roots. By December 26 in Haiti, he had learnt to distinguish between these roots and the roots from which bread was made. We get further details from Doctor Chanca's Letter, which reached Spain, March 16, 1494. He says[85]:—

> "A este *age* llaman los de Caribi *nabi,* é los indios *hage.*"

The fact that one spelling includes an h, and the other does not, has not the slightest significance, but the form *nabi,* helps to identify it. Navarette quotes Oviedo[86] as saying that *ajes* are in color bluish purple. Roth gives an Akawai receipt for making the *mabi* or red-potato drink still used in Guiana. Lucien Adam[87] gives instances of the use of the word *napi* (*patate*) in Carib dialects. Doubtless this purple dioscorea was one of the varieties indigenous to America, it must be distinguished from yams and the sweet potato. Wiener says[88] that the *ajes* are sweet potatoes, that the Indian name *hage* is an imitation of *age,* which apparently is not Indian; that *nabi* is a phonetic variation of African Wolof *nyambi,* 'yam,' while *hage* unquestionably was at first an Italian form, and so pronounced *hadzhe* or *hatche,* and is also a variation of an African word for yam or sweet potato. There is not the slightest reason for giving the word *age* an Italian pronunciation.

---

[83] El origen del vocablo 'canoa,' *Revista de Derecho, Historia y Letras,* Julio de 1921, tomo LXIX, pp. 307–318, Buenos Aires, 1921. The above article by the present writer enters fully into the history of the word *canoa.*

[84] Thacher, *op. cit.,* vol. I, pp. 610, 606.

[85] Nav., *op. cit.,* vol. I, p. 220.

[86] *Id.,* p. 49; Roth, Walter Edmund. An Introductory Study of the Arts, Crafts and Customs of the Guiana Indians, *Thirty-Eighth Annual Report, Bureau of American Ethnology,* 1916–1917. Washington, 1924. See p. 231, for *Mabi.*

[87] Adam, Lucien, *Grammaire comparée Caraïbe,* Paris, 1893, p. 124.

[88] Wiener, *op. cit.,* vol. I, pp. 193, 197, 262.

Cannibal, Carib, Caniba, Canima. It seems best to take these words together. Wiener begins by saying[89] that no such name as Carib existed, and that the Caribs were the people where amber (Arabic, *kahrubah*) was found, *i.e.,* on the island of the Males. He says that *Cariba* is a variation of *Caniba,* and that *Caniba* and *Canibal* are derived from Marco Polo's *Cambalu,* for which Columbus was seeking. Later on he thinks that Columbus must have met Caribs in Haiti, and he ends with a few lines not very easy to understand.

Let us recount the actual use of these words. Columbus is told on November 23, [90] as he is sailing along the coasts of Cuba, that somewhere ahead dwell *Canibales,* of whom those Indians he had hitherto met with had great fear. On November 26, these same Indians are in great fear of those of *Caniba* or *Canima;* then on December 11, land behind Haiti is said to be called *Caritaba;* on December 13, a place-name is given, *Cariba;* on December 17, mention is made of the people of *Caniba,* or the *Canibales.* On December 26, we hear of the people of *Caniba,* whom they call *Caribes.* On January 13, we are told of people who were in great fear of *Carib,* that in some islands they called it *Caniba,* but in Haiti, *Carib.*

The word *canibales* appears in Peter Martyr, in his letter of November 13, 1493. Vespucci, in the account of his first voyage, says[91]:—

> ''In questa terra ponēmo fonte di baptesimo: & infinita gente si baptezo / &ci chiamauano in lor lingua Carabi / che uuol dire huomini di gran sauido / ria.''

It is possible that *three* words still in use among the Makuchi Indians of British Guiana today may throw some light upon these words of Columbus' Journal; which need not necessarily connote *one* thing only. The Makuchis call a Carib *Karína; Karaíwa* is for them a white man from Brazil; and *Kanaíma* is the invisible enemy who inflicts some ill. Lucien Adam in his Tupi Grammar gives[92]: *kañy-m-a,* se perdre, disparaître; and Ruiz de Montoya[93] gives *Caraíba* as the word the Guaranís applied to their magicians or medicinemen. Las Casas, it is true, is somewhat dubious as to the value of Vespucci's evidence.[94] Peter Martyr's *Epistolæ,* No. 143, dated October 20, 1494, mentions *Canibales,* and No. 147, dated December 5, of the same year, has *canibales siue caribes.* Syllacio, with news of the early part of the second voyage, says[95]:—

> ''these islands are under the rule of the Cannibals.''

There would seem to be no need to go to the Arabic or even to Marco Polo.

---

[89] *Id.,* pp. 41, 34, 43, 42; and vol. III, p. 185.

[90] Nav., *op. cit.,* vol. I, pp. 63, 67, 85, 88, 94, 115, 135.

[91] *Lettera di Amerigo vespucci delle isole nuouamente trouate in quatro suoi viaggi,* Data in Lisbona adi 4. di Septembre 1504, fol. b.i.

[92] Adam, Lucien, *Grammaire comparée . . . Tupi,* Paris, 1896, p. 113.

[93] Montoya, P. Antonio Ruiz de, *Vocabulario y Tesoro de la Lengua Guarani,* Edition, Paris, 1876, p. 90.

[94] Las Casas, *Hist. Ind.,* LXIII, p. 408, 62. (See his reference to Peter Martyr.)

[95] Syllacius, *op. cit.,* p. 26: ''Insulae canaballis parent:''

Cazavi (*Cassava*). The Journal tells us,[96] under date of Wednesday, December 26, 1492, that

> "The King ate on the caravel with the Admiral and afterward went with him on land where he paid the Admiral great honours, and gave him a repast of two or three kinds of ajes with shrimps, game and other viands which they had and their bread which they call cazavi."

Las Casas,[97] referring to October 16, 1492, mentions the bread of those countries which is called *cazabí.* Vespucci, in the account of his first voyage, says[98]:—

> "they have no seed of wheat nor other grain: and for their ordinary use and feeding, they have a root of a tree, from which they make flour, tolerably good, and they call it Iuca, and (there are) others who call it Cazabi, and others Ignami:".

Wiener[99] makes the latter words read:—

> "and they call it iuca, and another which they call cazabi, and another, ignami."

This will not do; Vespucci's words will not bear Wiener's meaning, the word *altre* refers to a plural subject. Here is the passage:—

> "usano una radice duno arbore / della quale fanno farina & assai buona / & la chiamano Iuca / & altre che la chiamano Cazabi / & altre ignami:"

Wiener goes on to say[100]:—

> "The great quantity of preparations from manioc makes it hard to classify the many appellations by which the manioc is known among the Indians. But it is possible to show that a considerable number of these are derived from cazabi, the word so early associated with the manioc, or, more correctly, from caxada, the Portuguese word for it. We have already seen that there is a confusion from the very beginning, in Amerigo Vespucci, as to what cazabi was. It was some kind of flour, but it was not certain whether it was the flour made from the manioc. There can be little doubt that Vespucci knew the Arabic term qasab, millet. . . . He extended it to include flour made of the manioc. The word entered the Spanish and Portuguese as caçabe, caçada, and the latter has produced some curious Indian words."

Las Casas[101] states distinctly that *cazabi,* with the penultimate syllable long, was the name the Indians gave their bread. Peter Martyr, in the seventh book of the First Decade,[102] refers to Spaniards in Haiti who for three months had nothing to eat but *cazabi,* and not too much of that.

Yuca. We have had this word already in a quotation from Vespucci. It is used of the root from which the Indians made their bread by Peter Martyr, in the first book of the First Decade, in the 1516 edition,[103] although not in the 1511 edition as Wiener states. There is also in the same place a short description of the plant and of bread-making, while in the Third Decade a longer description is given. Las Casas in his account of the plant says,[104] the root is called *yuca,* with the emphasis on the first syllable. Ernst considers[105] that the Guaraní word *mandióg* lost its first syllable, had the nasal *nd* transformed into a Spanish *y,* and thus became *yuca.* The word *mandioka* apparently appears first in print in Hans Stade,[106] whose work was published in 1557.

---

[96] Nav., *op. cit.*, vol. I, p. 114; Thacher, *op. cit.*, vol. I, p. 626.

[97] Las Casas, *Hist. Ind.*, LXII, p. 306.

[98] Vespucci, *op. cit.*, fol. a.v.

[99] Wiener, *op. cit.*, vol. I, p. 197.

[100] *Id.*, p. 249.

[101] Las Casas, *Hist. Apol.*, p. 27.

[102] Peter Martyr, *op. cit.*, Edition, 1511, Lib. vii. fol. f. "Id trimestre bellū satis erūno se egerunt: neqz enim trimestri toto cibos vllos sunt assecuti preter cazábi id est radicalē eo panem: atqz ex eo raro ad saturitatem:" (Paul Gaffarel translates the last words: 'et encore n'étaient-elles pas toujours à maturité.' as though he had a different reading. If the reference were to the use of immature cassava in a time of scarcity it would be a special mark of the accuracy of the narrative.)

To return to Wiener;[107] according to him, the Arabic *urūq,* "roots," becomes in Bulom *yōka,* from which is derived *yuca,* and *mandioka* is a Bantu plural of *yōka.* He says:—

> "The Indians learned the cultivation of the manioc from the Congo Negroes, whom the Portuguese brought in, hence the large number of Kongo words which found their way into Brazil."

And again:—

> "Yuca, which is mentioned by all the early writers, has left no trace behind. This would seem to indicate that, in spite of the very elaborate explanation of the manioc by Oviedo and the reference to yuca by Columbus and the other writers, the manioc did not become so popular on the islands as the sweet potato and that it worked its way up from Brazil, where it was cultivated chiefly for the sake of possible castaways on the shore, in all probability even before the voyage of Cabral in 1500, in fact, before the discovery of America by Columbus. The authors who used the word yuca were describing the plant as known in West Africa, where yoka or similar words had long been in use. It is only in Brazil that the Kongo madioka took root."

Will it be believed that the statement that mandioka was cultivated in Brazil chiefly for possible castaways has for its foundation the account given by Hans Stade[108] of a certain Spaniard at a place called St. Catherine's Harbour, who said that three years before he had been in the province of Rio de la Plata and had been sent from Asunción in Paraguay down to the coast, a distance of some three hundred miles, in order to induce a friendly tribe of Indians to plant roots called mandioka,

> "so that the ships might there again (if it happened that they were in want) obtain provisions from the savages."

The crews of ships from Spain might indeed be glad to obtain from friendly Indians any kind of food after their long journey; an altogether different matter from feeding castaways from shipwrecks, of whom there is no mention. Hans

---

[103] Martyr, Peter, *op. cit.,* Edition, 1516, Dec. I., Lib. i. fol. a iii: "Est & aliud radicis genus: quā iuccam appellant."

[104] Las Casas, *Hist. Apol.,* p. 28.

[105] Ernst, A., Ethnographische Mittheilungen aus Venezuela, *Zeitschrift für Ethnologie,* Berlin, 1886, pp. 514–545. See p. 517:—"Die Form 'Yuca' ist durch Abwerfung der ersten Silbe aus guar. 'mandióg' oder 'mandioca' enstanden, man erhielt so 'dioca' oder vielleicht richtiger 'ndioca,' dessen nasaler Anlaut mit dem darauf folgenden Vocal leicht zu dem consonantischen 'y' des Spaniers verschmolz."

[106] Stade, *op. cit.,* 1874, p. 130.

[107] Wiener, *op. cit.,* vol. I, pp. 240, 248, 250.

[108] Stade, *op. cit.,* 1874, p. 35; Wiener (vol. I, p. 213) changes this into: "It will be observed here that a Spaniard had been sent up from La Plata, some 1200 miles, to ask the friendly Carios to plant roots called mandioca for the Europeans wrecked on the coast."

Stade describes on another page[109] the way in which Portuguese ships traded with the natives in Brazil, exchanging knives, etc., for mandioca meal, ''of which the same savages there have much in various places,'' with which meal the Portuguese feed the slaves they have for sugar cultivation. Wiener makes this mean that the Indians planted this root for the sake of the Portuguese, ''who fed it to their Negro slaves.'' But as the meal was loaded on board the Portuguese ships, it means that they carried the meal back to their slaves on the Cape de Verdes.

One may safely say that in the year 1549 or even later, the Portuguese had no slave-worked sugar estates in Brazil, if they had they would have grown or obtained their mandioka in the neighborhood, and Hans Stade's account of Portuguese ships trading for it, shows clearly that it was to be carried to African islands, as it could not then be procured in Africa. Wiener quotes[110] De Candolle, and adds that he goes on to say:—

> ''that apparently no native manioc, the parent of the cultivated ones, has been found in Brazil.''

Now De Candolle insists that for several reasons it can hardly be doubted that manioc is of American origin, it was cultivated, he says, by the natives of Brazil, Guiana, and the warm region of Mexico, before the arrival of Europeans, as all early travelers testify; there are several ancient American names for the varieties of manioc, especially in Brazil; and

> ''The forty-two known species of the genus Manihot, without counting M. utilissima, are all wild in America; most of them in Brazil, some in Guiana, Peru, and Mexico; not one in the old world.''

The idea that manioc first came to the New World from Africa, in connection with the arrival of African Negroes and afterwards became a staple food for the aborigines over vast tracts of country, and was known by them under African names, may therefore be dismissed as having no foundation in fact.

Maize. According to Las Casas,[111] this name belongs to Haiti, where two crops of maize were raised each year, although they did not make bread of it. He spells it *mahíz.* Columbus, in the Journal,[112] under the date of October 16, 1492, writes:—

> ''This island is very green and level and fertile, and I have no doubt that panic-grass (panizo) may be sown and harvested all the year, and also all other things:''.

Las Casas, on reaching this passage in the Journal, says that the reference is to *maíz* which here the Admiral calls *panizo.* Peter Martyr in 1511[113] mentions

---

[109] Stade, *op. cit.*, 1874, p. 88; cf. Ruiz de Montoya, *op. cit.*, p. 205, ''Mandióg, Rayz conocida.''

[110] Wiener, *op. cit.*, vol. I, p. 244; Candolle, Alphonse de, *Origin of Cultivated Plants*, London, 1884, pp. 59–63.

[111] Las Casas, *Hist. Apol.*, p. 31.

[112] Nav., *op. cit.*, vol. I, p. 29; Las Casas, *Hist. Ind.*, LXII, p. 308.

[113] Peter Martyr, *op. cit.*, Edition, 1511, Dec. I. Lib. I. fol. d.ij; *Id.*, Edition, 1516; Dec. I. Lib. I. fol. a iii. ''Panem & ex frumento quodā panico: cuius est apud insubres & granatenses hispanos maxima copia: non magno discrimine conficiunt. Est huius panicula longior spitama in acutum tendens: lacerti fere crassitudine. Grana miro ordine a natura confixa: Forma & corpore pisum legumen aemulantur. Albent acerba: ubi maturuerūt nigerrima efficiuntur: fracta candore niuē exuperāt: maiziū id frumēti genus apellāt.''

panicum; in 1516 he refers to it as maize. In the letter Columbus wrote[114] to his Sovereigns on the Third Voyage and which may have been sent from Haiti by the fleet which left on October 18, 1498, he says of *maiz,* that it is a seed or plant which bears an ear like a *mazorca,* that he had taken some to Castille, and that already there was a good deal of it there. A *mazorca* is a corn spike. Wiener admits[115] that the plant maize is of American origin, but he says the name is due to a misunderstanding. He translates Columbus' words to which we have just referred thus:—

> ''Maize is a seed which makes an ear like a maçorca, which I brought there and of which there is now a great deal in Spain.''

He thereupon concludes:—

> ''When, therefore, Columbus in 1498 spoke of having taken *mahiz there, and there is now a great deal of it in Spain,* he could have referred only to Guinea corn, which he had brought years before from Africa, and which, he had no doubt, also grew in the West Indies. Not until the Third Decade, that is, in 1511 (sic), did Peter Martyr distinguish between maize and Guinea corn, when he said *bread of maize, which is like bread made of Milan millet.* It is doubtful whether Columbus in 1498 knew the difference between millet and maize. When maize became actually known, the African name, from the Portuguese word for *Guinea corn,* was firmly and ineradicably attached to it, and it even entered into the languages of the American Indians, who came more nearly under Spanish influence.''

It is the word *mazorca* to which Wiener here refers, and he gives a dissertation on its history.

Now Columbus' words ''de que llevé yo allá'' refer not to the mazorca but to the maize, and it is perfectly unreasonable to suggest that he could not see the difference between maize and Guinea corn. Wiener also says:—

> ''It has generally been assumed that mahiz, maiz is a Carib word, but that is entirely out of the question.''

He further states that *marichi,* the form imposed, as he says, by the Spanish word, *mazaroca,* is the word used for maize in Arawak and Island Carib.

Wiener finds in Breton's Dictionary *awas̆i,* under the form, *aoüáchi,* side by side with *márichi,* bled d'Inde, autrement de Turquie, and he says: ''Wherever two words occur for the same thing, one is under suspicion.'' It might have occurred to our author that one word belonged to the men, the other to the women. Wiener does not say who has generally assumed that the word *mahiz* is Carib. The Carib in British Guiana[116] use the word *awās̆i.* The Guaraní word *abati,* occurs in Hans Stade.[117] Doctor Harshberger,[118] in an exhaustive monograph on maize, is satisfied that the word Columbus knew as *maiz* is from the Arawak word *marisi.* De Candolle says[119] maize is of American origin and suggests that the Chibcha, an agricultural people, who occupied the tableland of Bogotá at the time of the Spanish conquest, may have been the first to possess and cultivate the plant, he continues:—

---

[114] Nav., *op. cit.,* vol. I, p. 251.

[115] Wiener, op. cit., vol. I, pp. 118, 123, 124, 119, 122; Breton, R. P. Raymond, *Dictionnaire François-Caraibe,* Auxerre, 1666, p. 3. ''Auquel la lettre f. marque que le mot qui suit est du langage des femmes,''; and p. 44, ''bled du Turquie, gros mil, aoáchi, f. maríchi.''

[116] MS. Vocabulary by Rev. W. H. Brett.

[117] Stade, Hans, *op. cit.,* 1874, p. 49.

[118] Harshberger, John W., Maize: A Botanical and Economic Study, *Contributions from the Botanical Laboratory of the University of Pennsylvania,* vol. 1, no. 2, Philadelphia, 1893, pp. 128, 88.

[119] De Candolle, *op. cit.,* pp. 387, 397.

> "It marched with Peru, then but little civilized, on the one hand, and with the Mayas on the other, who occupied Central America and Yucatan."

It seems possible that both the Island word, and *abati, awáši,* and kindred forms may have been derived from some original, such as the Maya word for maize,[120] *ixim.*

Wiener considers[121] that Peter Martyr blundered in stating that maize is used only when there is a scarcity of yuca,

> "the fact being universally (sic) that it is yuca which takes the place of maize, when this has failed."

No authority is quoted in support of this assertion. Padre de Acosta,[122] whose book was published in 1590, is not sure whether maize was used of old on Haiti, but in his day they used the yuca more. Harshberger states,[123] what is still the case, that:—

> "The Guiana Arawaks cultivated maize, but cassava afforded the chief food."

It is more than probable that the blunder should be laid on other shoulders than those of Peter Martyr.

An interesting passage, corroborating Columbus, in a book published in 1856[124] tells how the head of the Biblioteca columbina:—

> "me mit entre les mains des documents curieux, addressés du Mexique à la junte de Séville, vers l'an 1500, annonçant un envoi considérable de maïs, destinés à des essais d'acclimatation."

The date is indefinite.

Wiener says[125] that Peter Martyr mistook the Indian maize for the Guinea corn (*sorghum vulgare*) and applied to it the name which was already current in Spain or Portugal. We have seen that the word *mazorca* means a corn spike; it is not the specific name of a plant; and there is not the slightest reason for connecting it with the New World word, *mahiz.* Further, why should we quite gratuitously suppose that Peter Martyr could not distinguish the American plant from the Guinea corn? The word *maizium* does not appear in the Decades until 1516,[126] and then, in Book Three, he does distinguish them, as Wiener himself admits.

---

[120] Perez, Juan Pio, *Diccionario de la Lengua Maya,* Merida de Yucatan, 1866–1877, p. 157.

[121] Wiener, *op. cit.,* vol. I, p. 201.

[122] Acosta, C. J., el Padre Ioseph de, *Historia Natvral y Moral de las Indias,* p. 236:— "De las Islas de Barlouento que son Cuba, la Española, Iamayca, San Iuan no se que se vsasse antiguamēte el Mayz, oy dia vsan mas las Yuca, y Caçaui."

[123] Harshberger, *op. cit.,* p. 117.

[124] Fée, A. L. A., *Souvenirs de la Guerre d'Espagne, 1809–1813,* Paris, 1856, p. 128.

[125] Wiener, *op. cit.,* vol. I, p. 123, 124.

[126] Martyr, Peter, *op. cit.,* Edition, 1516, Dec. I. Lib. I. fol. a iii, see above, Note 113; and Dec. III. Lib. III. fol. f. vii: "Maizio pane qui est uti paniceus insuber ibi triginta dierum intercapedine exhaustos repleuerunt uentres." (If Professor Wiener were to visit a Botanical Museum and see specimens of maize, Guinea corn, and various kinds of millet, he would soon realize that no sensible person could fail to distinguish maize as being quite different from all the rest.)

Tabaco, Cohoba. Coming now to these words, we read in Wiener[127]:—

> "That tabaco, first mentioned in Hispaniola, should have found its way to the northwest, in addition to the rest of the continent, is a prima facie proof that the distribution of tobacco follows from its first appearance under Arabic influence, from Guinea to all countries where Spanish, Portuguese, and French sailors navigated via Guinea or after having taken part in Guinea expeditions."

That is to say, tobacco and its names came *to* and not *from* America. Again, Wiener says[128]:—

> "The Arabic sources make it clear that in Persia and Syria a substance, tubbāq, obviously the tobacco of our day, was employed for the same purpose for which the henbane and bitumen were used in the Graceo-Roman medicine, and that in Africa another plant of the same kind was in use by the Arabic physicians. These two plants are unquestionably the Nicotiana tabacum and Nicotiana rustica. . . . From Africa the tobacco found its way into America, half a century, possibly a century, before the so-called discovery, chiefly in its sacerdotal significance."

Wiener gives[129] these meanings to the Arabic word *tubbūq*; "a species of tree growing upon the mountains of Mekkah,"; "the powder used in dressing wounds,"; and "an aromatic plant used for a styptic,"; he says[130] that Columbus' source related the word to the Arabic *tabaq,* "plate, cover, table,"; and he finds[131] that in Ramon Pane's account nearly all the "Indian" words are Mandingo. According to Wiener, the word *cogioba,* in Pane, is the Italian spelling of the Arabic word,[132] *qaṣabah,* "reed, pipe." He gives[133] the English of the Journal entry of Columbus on October 15, 1492, as meaning

> "that an Indian brought him a piece of red earth, in the form of a powdered ball,"

whereas the passage says nothing about a ball or about the Indian bringing him anything; and he then assumes[134] that because the man had dry leaves, "If Columbus really saw what he describes" the only one conclusion possible is "that cogioba, the Arabic method of smoking, was known in America before its discovery by Columbus." Why the sight of an Indian in a canoe having dry leaves which Columbus judged were highly appreciated by the natives should lead to such a remarkable conclusion is not immediately apparent. The Journal entry on November 6 is rendered: "leaves with which to take their incense," and our author says that Las Casas tries to describe this taking of the incense as smoking of tobacco, while Ferdinand Columbus merely speaks of the burning of incense. Wiener finds[135] the Guaraní word *petym* (petun), is a corruption of the Portuguese word, *petume,* bitumen.

---

[127] Wiener, *op. cit.*, vol. I, p. 141.

[128] *Id.*, vol. II, p. 180.

[129] *Id.*, vol. I, pp. 102, 105, 111.

[130] *Id.*, vol. I, p 105.

[131] *Id.*, vol. I, p. 159.

[132] *Id.*, vol. I, p. 105.

[133] *Id.*, vol. I, p. 113.

Nav., *op. cit.*, vol. I, p. 28: "fallé un hombre solo en una almadia que se pasaba de la isla de Santa María á la Fernandina, y traia un poco de su pan, que seria tanto como el puño, y una calabaza de agua, y un pedazo de tierra bermeja hecha en polvo y despues amasada, y unas hojas secas que debe ser cosa muy apreciada entre ellos, . . ."

[134] *Id.*, vol. I, p. 114.

[135] *Id.*, vol. I, p. 135.

The proofs of an American origin of tobacco, according to De Candolle,[136] are numerous and consistent, and confirmed by its common names. Günther Stahl, a recent writer,[137] also supports the American origin of tobacco.

Whereas Wiener says[138] that *Nicotiana tabacum* and *Nicotiana rustica* grow wild in Africa, De Candolle says[139] of the former:—

> "It is very possible that its original country extended north as far as Mexico, as far south as Bolivia, and eastward to Venezuela."

Of the latter he says:—"the probabilities are in favour of a Mexican, Texan or Californian origin."

We must now return to Friar Ramon Pane, the poor Hermit, of the Order of St. Jerome, who had come to Haiti with Columbus on his Second Voyage, together with the priest, Friar Buil, two lay-brothers of the Franciscan Order, a few other ecclesiastics, and one Luis de Artiaga.[140] We first hear of him at the Fort Magdalena,[141] three or four leagues distant from the site of the future city of Santiago, in the province of Maroris, also called Macorix (or, Mazorix) de abajo, the Commandant of which was the above-mentioned Luis de Artiaga. But Pane's residence at the Fort would not have begun immediately on his arrival in the island, for the Fort was not yet built. However, he lived in this neighborhood long enough to acquire some knowledge of the people and their language, and was able to persuade some of them to accept the Catholic Faith. It would seem that these must be the people to whom Las Casas refers[142] when he says that a people called Mazoriges, and others called Cyguayos, having languages different from the common one of the island, lived along some thirty leagues of the northern coast of Haiti in a district stretching inland some twenty leagues. Ernst[143] traces both these names to a Guaraní source. After this Columbus ordered[144] Pane to go further south to stay with a chief named Guarionex, and the Friar stipulated that he might take with him an Indian friend who was a Christian and knew both the language of Maroris and the common one of the island. It appears, however, that these two waited for Columbus at Isabella, the principal settlement, before going on to Guarionex. When at last they went to the Vega Real, it was under the charge of one Giovanni di Agiada, whom Pane calls Commandant of the Fort Concepción de la Vega, situated on the site of the future town of that name and only half a league from where they were to live. According to Las Casas,[145] the Commandant of this Fort was the hidalgo, Juan de Ayala; hence, it seems probable that Pane's Giovanni di

---

[136] De Candolle, *op. cit.*, pp. 142, 143.

[137] Stahl, Günther, Der Tabak im Leben südamerikanischer Völker, *Zeitschrift für Ethnologie,* Band LVII, pp. 81–152. This article gives an extensive bibliography and native words for tobacco.

[138] Wiener, *op. cit.*, vol. I, p. 111.

[139] De Candolle, *op. cit.*, pp. 141, 142.

[140] Las Casas, *Hist. Ind.*, LXIII, p. 50; LXII, p. 500; *Hist. Apol.*, p. 322.

[141] Las Casas, *Hist. Ind.*, LXIII, p. 120; *Vita Cristoforo Colombo,* descritta da Ferdinando, suo Figlio, e tradotta da Alfonso Ulloa, Londra, 1867. p. 205.

[142] Las Casas, *Hist. Ind.*, LXII, p. 434.

[143] Ernst, *op. cit.*, p. 137.

[144] Ferdinando Colombo, *op. cit.*, pp. 206, 207: "ed andammo alla Isabella."

[145] Las Casas, *Hist. Ind.*, LXIII, pp. 120, 121, 110.

Agiada was the Juan Aguado who arrived in Haiti in October, 1495. There is a difficulty about Pane's Christian friend. Columbus left Haiti for Spain on March 10, 1496,[146] and Pane himself relates[147] that his Indian friend, the first Indian to be baptized in the New World, was baptized by the name of John Matthew, on September 21, 1496. It may be that as he was being instructed in the Faith, and was expecting to be baptized, Pane spoke of him as a Christian in anticipation of his baptism. Two years were spent in the country of Guarionex, and then Pane, Friar John, a Franciscan companion, and the Indian, John Matthew, went to the district of another cacique, one Maviatué; and, not long afterwards, John Matthew and some other Christian converts were put to death by their fellow countrymen, not, suggests Las Casas,[148] because they were Christians, but rather as being friends of the hated Spaniards. The first news from Pane probably came with Columbus who arrived at Cadiz on June 11, 1496, or it may even have been brought when Friar Buil, and perhaps other ecclesiastics, left Haiti[149] for Spain in April or September, 1494. Pane himself may have returned to Spain on board one of the ships which left Haiti on October 18, 1498, in sufficient time for Peter Martyr to write of him in Book Nine of his First Decade. Pane does not say,[150] as Wiener supposes, that John had been a Christian for three years, nor does it seem necessary to suppose with Wiener that the date given as that of John's baptism is incorrect. When we remember that the information concerning the religion of the people of Haiti collected by Friar Ramon was used by Peter Martyr, Las Casas, and Ferdinando Colombo, we may conclude that his narrative was deemed to be, on the whole, a faithful account of what he had heard and seen. It seems, therefore, quite gratuitous to suppose with Wiener that

> ''he was not only an ignorant person, but also a dupe of dishonest men, or himself a downright cheat.''

Pane relates[151]:—

> ''Bisogna che egli si purghi ancora, come lo ammalato, e per purgarsi piglia una certe polvere, chiamata cohoba, tirandola a sè per il naso, la quale gli imbriaga di tal maniera, che non sanno quel che si fanno.''

This appeared in print in 1571, but this account of *cohoba* appears in Peter Martyr[152] in 1511, and also in Las Casas.[153] Wiener's idea[154] that the alternative spelling in the 1571 book, *cogioba* is the Italian spelling of the Arabic *qaṣabah,* is based on his supposition that the letters here have their Italian value; but since we have *cohoba, cacique, Cibao, agis,* it is surely quite superfluous to suppose that Alfonso Ulloa, the translator, changed into Italian the Spanish orthography of American words. We may therefore dismiss the curious idea that Pane's word *cohoba,* a powder or the taking of a powder, is connected with the Arabic word *qaṣabah,* "a reed or pipe." Ernst suggests[155] that the word is of Guaraní origin; *cog,* "to sustain, strengthen, nourish;" and *hob,* "leaf;" equivalent to modern Brazilian, *cogonha,* "the leaf which sustains or strengthens:" or, it may be, he says, the present participle of *cuí-ú* or *cuyú,* "to eat," "to absorb a powder," which would be *cuí-guabo,* or *cuyubo,* which, since the present participle frequently has the sense of a noun, means, as Las Casas explains, the absorbing or taking of the powder. Safford[156] identifies *cohoba* with the seeds of a mimosa-like tree, known as *Piptadenia peregrina,* which, he says, grows on the island of Haiti, and still bears the name *cohoba.*

---

[146] *Id.,* p. 125.

[147] Ferdinando Colombo, *op. cit.,* pp. 211, 208, 210.

[148] Las Casas, *Hist. Apol.,* p. 447.

[149] Las Casas, *Hist. Ind.,* LXIII, pp. 108, 75, 76, 79.

[150] Weiner, *op. cit.,* vol. I, p. 100.

[151] Ferdinando Colombo, *op. cit.,* p. 196.

[152] Peter Martyr, *op. cit.,* Edition, 1511, Dec. I, Lib. X. fol. f. vi.: ''Quare quom de belli euentu de annona: de incolumitate zemes reguli consulunt: domum zemi dicatam ingrediũtur: ibiqz absorpta per nares chohobba (sic herbam vocant inebriantem qua & bouijti in furorem statim vertuntur).''

[153] Las Casas, *Hist. Apol.,* p. 445.

[154] Wiener, *op. cit.,* vol. I, p. 105.

The entry in the Journal[157] on October 15, 1492, of the man in the canoe who carried with him some dry leaves, as to which Columbus remarks that people must esteem them very much, as they had brought him some as a present at the first island, has been referred to above. The entry on November 6 gives the report of two of Columbus' men sent ashore on Cuba; they found many people going to their villages, both men and women who carried a firebrand in the hand, and herbs for taking their fumigations according to their custom. Las Casas renders the passage thus[158]:—

> "These two Christians met on the road many people who were proceeding to their villages, women and men, the men always with a firebrand in their hands and certain herbs to take their fumigations (sahumerios), these are dry herbs wrapped in a certain leaf, also dry, after the manner of a musket made of paper which boys make at the Feast of Pentecost; and having lighted one end of it, at the other they suck or inhale, or receive within with the breath, that smoke, with which the body is soothed and which almost intoxicates, so that they do not feel fatigue. These muskets, or whatever we shall call them, they call tabacos."

The word *sahumerio* does not mean "incense," as Wiener says, nor "incense burners," as Safford translates; it means the action of the verb "zahumar," to burn something which makes a smoke, to fumigate. The Spaniards supposed that the object of this burning with resulting smoke was for the purpose of some kind of fumigation.

Oviedo, in referring to the Haitian custom of taking certain smokes, says[159] that *tabaco* is the name of the instrument through which they inhaled and not the name of the herb itself. It seems probable that Oviedo is confusing the inhaling of narcotic snuff with the smoking of a dried herb. Ernst supposes[160] the inhaling of a powder like the *parica* and *niopo* of South America was a

---

[155] Ernst, *op. cit.*, pp. 135–136.

[156] Safford, W. E., Narcotic Plants and Stimulants of the Ancient Americans, *Annual Report, Smithsonian Institution for 1916,* pp. 387–424, Washington, 1917, pp. 393, 396, and Pl. 3.

[157] Nav., *op. cit.*, vol. I, pp. 28, 51; see also above, Note 133.

[158] Las Casas, *Hist. Ind.*, LXII, p. 332. (Safford's translation has been used). Span. *sahumerio* "fumigation," *i.e.*, the burning of something which produces a smoke, done for a purpose. From *suffumigare.*

[159] Ouiedo y Valdes, el capitan gonçalo hernandez de, *La Historia general de las Indias,* Seuilla, 1535, Lib. V. c. ii. fol. xlvij.

[160] Ernst, *op. cit.*, pp. 134, 135, 140.

Guaraní custom, and, following Almeida Nogueira, he derives *tabaco,* or rather, *taboca,* from *tabog,* the permissive form of the verb *bog,* "I split," or from *itábog,* "it splits stone." As an alternative, he suggests, from the Arawak, *tupaku,* a truncated form from *dattukúpa,* "I suck" (tobacco).

Wiener refers[161] to a word in the Grammar of De Olmos, *yetl,* which he translates "incense"; it is *çahumerio.* He then says that in twenty-five years the meaning has passed from "incense" to "herb,"

> "through a compounding with 'pic,' given as derived from 'piciliui' to make small."

No reference is given for the latter statement, the former, we have seen, is incorrect; and *piciliui* means[162] "to become slender from being stout." Possibly the word *yetl* may be connected with the word *izuatl,* a leaf ("hoja").

Lucayos. Wiener asks[163] how could anyone on October 12, 1492, have known that the expedition had come to an archipelago, which, besides, bore this name. The word, he says, does not occur again in the early accounts, and so must be a misreading of something else, which he suggests is "Illes de les Indies," in the semi-uncial writing of the early maps. Now Brinton,[164] working from a Ms. Arawak dictionary at Philadelphia, a copy of which exists in London, says:—

> "The natives of the islets of the Bahamas were called 'lukku kairi,' abbreviated to 'lukkairi,' and 'lucayos,' from 'lukku,' man, and 'kairi,' an island, 'men of the islands';".

Las Casas[165] writing of the same date, says the same thing:—

> "todas estas islas de los lucayos, porque ansí se llamaban las gentes de estas islas pequeñas, que quiere decir, cuasi moradores de cayos, porque cayos en esta lengua son islas."

The word was not the name of an archipelago, it was not a proper name at all, it was simply descriptive, and was used as such; and may have been heard almost immediately after the actual discovery. Doctor Chanca mentions[166] *cayre* as the name of an island, and, in after years, Dudley[167] found the word in Trinidad. From it we get Spanish *cayo,* and English key.

Guanahani. Las Casas gives this name[168] and, as so often, a rule for its pronunciation. The Spanish Letter has *Guanaham,* the Latin Letter has the spelling *Guanahanin,* the word being governed by "vocant." Wiener[169] prefers to study the German translation of the Letter, made in 1497, and finds the name there is *Gwanahim,* and this, he says, is a misreading of the words *giaua min.,* that is "Java the Less," on the map of Fra Mauro of 1457. It seems much more reasonable to suppose that Columbus and the Indians he brought with him on his return to Spain in 1493 knew the name of the island on which he first landed in the New World.

---

[161] Wiener, *op. cit.,* vol. I, p. 146.

[162] *Vocabvlario en lengva castellana y mexicana,* compuesto por el muy Reuerendo Padre Fray Alonso de Molina, Mexico, 1571, Part I, fol. 81. "*Piciliui.* hazerse menudo lo que era gruesso y redondo," fol. 49. "*Izuatl.* hoja."

[163] Wiener, *op. cit.,* vol. I, pp. 1, 5.

[164] Brinton, D. G., The Arawack Language of Guiana in its Linguistic and Ethnological Relations, *Transactions, American Philosophical Society,* N.S. vol. 14, part 3, pp. 427–444, Philadelphia, 1871, p. 441

[165] Las Casas, *Hist. Ind.,* LXII, p. 292.

[166] Nav., *op. cit.,* vol. I. p. 208.

[167] 'The Voyage of Robert Dudley. 1594–1595.' Edited by G. F. Warner. Hakluyt Society. London, 1899. See the map in the pocket.

[168] Las Casas, *Hist. Ind.,* LXII, p. 291.

[169] Wiener, *op. cit.,* vol. I, p. 6.

Cacique. The Journal[170] gives this word under date of December 17, 1492, as a title of one whom Columbus took to be Governor of a province. Las Casas has the word and says it means "king." By April 29, 1494, the word appears in Peter Martyr's Decades,[171] and by December 13, of the same year, in Syllacio's work.[172] Brinton suggests[173] its derivation from Arawak *kassiquan,* from *ussequa,* "house," and so, "to have or own a house," equivalent, therefore, he says, to English "landlord." Wiener[174] takes the spelling *cazichio,* from the Libretto, and says it is

> "the Mande, Bambara, Dyula 'kuntigi,' 'chef ou général.' This 'tigi' owner, is attached to the word of which a man is an owner or chief, hence 'dugu-tigi' chief of a village. 'Kun' in 'kuntigi' means 'head,' hence 'kuntigi' head chief. Unfortunately it is not possible to determine precisely the dialect of Mande from which the Guinea 'scholar' drew his etymologies, but since 'kun' head, is found as 'kan, ku' in several of them, and t and s constantly change in Mande, there can be no doubt that 'kasigi' was already found in Mande."

Nucay, Nozay, Caona, Tuob, Guanin. Columbus mentions[175] on November 1, 1492, *i.e.,* when he was in Cuba, that they called gold *nucay.* On the following January 13, he says the name for gold on Guanahaní (San Salvador) was *nozay;* on one part of Haiti they called it *caona,* and on another part of that island the name was *tuob.* He also says that *tuob* was the name of copper or inferior gold. He refers to the island of Goanin, where there is much *tuob.* Las Casas did not think this was the name of an island but of an inferior gold. Brinton[176] suggests the derivation of caona, the Arawak word, *kaijaunan,* to be precious, costly. Ernst says[177] of *tuob,* "here, we have a Guaraní word, itayúb, literally yellow stone." Las Casas says[178] that *guanín* was a kind of inferior gold, and the name was also applied to a kind of earring. Peter Martyr mentions these ornaments by this name.[179]

Because Bernáldez has the passage "que se llama 'guaní'," Wiener thinks[180] that this author's account of the Second Voyage was based on a text which was afterwards used in editing the Journal of the First Voyage, and thus the blunder, as he calls it, of January 13 is explained. In the Journal of this date we read[181] of an Indian who told Columbus that on a certain island there was much gold, some pieces of which were as large as the poop of the caravel, itself of no mean size. The Indian may have been joking or he may have been misunderstood; in any case a mere comparison of size may occur in two accounts absolutely unrelated the one to the other. When we turn to Bernáldez[182] we find he is describing an ornament or jewel worn by an Indian present in his own house, which he himself had held in his hands, it was of copper with perhaps gold of eight carats, it was called *Guaní,* and was about the size of a plate. But, says Wiener, Ferdinando Colombo[183] on the same day, January 13, says

---

[170] Nav., *op. cit.,* vol. I, p. 94; Las Casas, *Hist. Ind.,* LXII, p. 393–4.

[171] Peter Martyr, *op. cit.,* Edition, 1511, Dec. I. Lib. II. fol. d. v.: "Icto igitur cum hoc Cacico id est rege fraterno foedere ad prefectum que viderant renunciaturi rediere."

[172] Syllacius, *op. cit.,* p. 76.

[173] Brinton, *op. cit.,* p. 438.

[174] Wiener, *op. cit.,* vol. I, pp. 70, 71.

[175] Nav., *op. cit.,* vol. I, pp. 45, 134.

[176] Brinton, *op. cit.,* p. 438.

[177] Ernst, *op. cit.,* p. 137.

[178] Las Casas, *Hist. Apol.,* p. 521. (The earrings, apparently, were called *taguaguas.*)

[179] Peter Martyr, *op. cit.,* Edition, 1511, Dec. I. Lib. X. fol. f. v.; "tabellas quasdā flauas ex aurichalco (quas guaninos appellāt) habuisse dicūt."

[180] Wiener, *op. cit.,* vol. I, pp. 33, 34.

> ''e che quivi erano pezzi di Guanin tanto grandi, come la metà della poppe della caravella.''

Ferdinando Colombo introduces the word here, as it was a name for ''gold,'' but it came to be applied, as we have seen, to an ornament as well; probably, if Brinton is right, because it simply meant something precious. Wiener says[184] *nucay, nozay,* are from the Arabic *nudār,* ''pure gold,'' written in Spanish *nuçar,* and transferred to the Journal as *nuçai, nucai; guani* and *caona* are from the Vei word *kani,* ''metal (gold or silver);'' and *tuob* is the Arabic *dzahab.*

Civao, Cibao, Ciba. The Journal on December 24, 1492,[185] mentions that one of the places named by the Indians was Cipango, which ''they call Civao.'' That is to say, Columbus thought they were speaking of Cipango, although the name they actually mentioned was ''Civao.'' On December 29, Columbus understood an Indian youth to speak of certain islands, one Cibao among them; Las Casas explains[186] that this Cibao was a province of Haiti, and not a separate island, as Columbus had supposed. Doctor Chanca[187] mentions this same district called Cibao. He also says that the word *ciba* means ''a stone.'' Las Casas[188] derives the name of the province Cibao from this word *ciba,* ''stone,'' and says the name was most appropriate, as the district was very stony. He also refers to a gift to Columbus of eight hundred small stone beads (*cuentas menudas de piedra*), which they called *cibas.* Brinton gives *siba* as Arawak for ''stone''; and the writer has heard Arawak in British Guiana speak of *s̆iba,* a stone. Peter Martyr[189] has Cibao in the third book of his First Decade, which bears a date before the return of Columbus from his Third Voyage. Bernáldez also gives[190] the word *Cibao.*

---

[181] Nav., *op. cit.,* vol. I, p. 134: ''y díjole el indio que en ella habia muy mucho oro, señalándole la popa de la carabela, que era bien grande.''

[182] *Raccolta di Documenti e Studi pubblicati dalla R. Commissione Colombiana,* parte I, volume I, Roma, 1892, gives on p. 263 a revised text of Bernáldez (see *op. cit.,* vol. II, pp. 74, 78): ''el cacique traía al pescueço unas joias de alanbre de una ysla que es en aquella comarca, que se llama 'guaní,' que es muy fino é tanto que parece oro de ocho quilates.''

[183] Ferdinando Colombo, *op. cit.,* p. 108.

[184] Wiener, *op. cit.,* vol. I, pp. 31, 32, 34.

[185] Nav., *op. cit.,* vol. I, pp. 109, 118.

[186] Las Casas, *Hist. Ind.,* LXII, p. 402.

[187] Nav., *op. cit.,* vol. I, pp. 221, 217.

[188] Las Casas, *Hist. Ind.,* LXIII, pp. 33, 14; Brinton, *op. cit.,* p. 439.

[189] Peter Martyr, *op. cit.,* Edition, 1511, Dec. I. Lib. III. fol. d. vij.: ''Est hec puīcia qzuis saxea (nā eorū lĩgua cibanū id q saxosuz sonat). . . .''

[190] Bernáldez, *op. cit.,* vol. II, p. 39. The Raccolta version gives *Cisbao.*

Wiener says[191] that Cybao is Cipango, and adds to remarks on its derivation, the following sentence: ''To this etymology we shall return later.'' The present writer cannot, however, find any further reference to it in his three volumes.

Bohio. On November 4, 1492, Columbus heard in Cuba[192] the word *Bohío* and understood that it meant a place. Las Casas adds a note that this word meant ''a house,'' as on an earlier date[193] he explains in his History. The Libretto of 1504[194] and Peter Martyr in 1511[195] have *boa,* a house; Peter Martyr in 1516[195] gives *boios* for ''houses.'' Theodor Schulz' *Arawak Dictionary*[196] gives *Bahü,* house; *Bannabuhu,* a house of leaves in the forest for sleeping in. According to Wiener,[197] *boa* is the Vei *boi,* ''hut, shed without walls, resting merely on posts;'' it became, according to him, Spanish *bohío, buhío,* and Arawak *bahü.*

Nitayno, Tayno. The Journal on December 23, 1492,[198] gives *Nitayno* as a title and a note by Las Casas states that it belonged to those who ranked next to the king; elsewhere he says the ''*y*'' is long, *Nita-ý-no.*[199] Doctor Chanca says[200] *tayno* means ''good.'' Peter Martyr in 1511 gives[201] the word for a ''good man.'' The Libretto says[202] that Columbus' Indians met the others: ''Cridando che non erano Canibali Ma taynos: cioe,'' as the writer explains, ''nobili: & gentilhomini.'' Brinton says[203] that there is not the slightest authority for adopting this word as a general name for the people and language of Haiti, nor for supposing, with Von Martius, that the first syllable is a pronominal prefix. He continues,

> ''The derivation is undoubtedly Arawak 'nüddan,' to look well, to stand firm, to do anything well or skilfully.''

Wiener says[204] that *Nišān,* in Persian, hence in Arabic, means ''sign, stamp, ensign, flag, standard, colors, armorial bearings;'' from this Arabic word comes *nican,* used in the Berber country for ''target, distinction, decoration.''

> ''In the Mande languages the word has the specific meaning of 'animal or other object serving as distinctive mark of the family.' Thus we have Bambara 'n'tene, tene,' for Arabic 'nišān,' since š changes to t.''

So he concludes that in the Nitayno

> ''we have the men who acquired marks of distinction by colors and especial designs.''

---

[191] Wiener, *op. cit.*, vol. I, pp. 285, 27.

[192] Nav., *op. cit.*, vol. I, p. 48.

[193] Las Casas, *Hist. Ind.*, LXII, p. 288; *id.*, *Hist. Apol.*, p. 39.

[194] Thacher, *op. cit.*, vol. II, 466. (See also Note 10 above). Cap. xii: ''boa uol dir casa.''

[195] Peter Martyr, *op. cit.*, Edition, 1511, Dec. I. Lib. I. fol. d ij.: ''Vocāt enī celū turei. Domū: boa,'' and Edition, 1516, Dec. I. Lib. II. fol. a iiii.: ''Domos uocant boios. . . .''

[196] An account of this Dictionary is given in *Proceedings, XXI International Congress of Americanists.*, p. 365, The Hague, 1924.

[197] Wiener, *op. cit.*, vol. I, p. 71; cf. also p. 192.

[198] Nav., *op. cit.*, vol. I, p. 108.

[199] Las Casas, *Hist. Apol.*, p. 516; *Id.*, *Hist. Ind.*, LXII, pp. 362–363.

[200] Nav., *op. cit.*, vol. I, p. 203.

[201] Peter Martyr, *op. cit.*, Edition, 1511, Dec. I. Lib. I. fol. d ij.: ''virū bonū: tayno.''

[202] Thacher, *op. cit.*, vol. II, p. 466.

[203] Brinton, *op. cit.*, p. 439.

[204] Wiener, *op. cit.*, vol. III, pp. 137, 139, 220.

He quotes from Oviedo a custom recorded for Venezuela of certain markings for military prowess, but he does not say whether the word under discussion was used in Venezuela; nor has he, apparently, noticed the proper pronunciation of the word, as given by Las Casas. The Arawak pointed out by Brinton seems a much more natural derivation than the Persian, Arabic, and Mandingo languages.

Cuba, Cubanacan. Columbus[205] on October 21, 1492, thinks of going to another and very large island which, according to the signs of the Indians he has on board, he believes to be *Cipango,* but which they call *Colba.* On the twenty-third he is still anxious to get away to *Cuba,* as he now spells it, but there is no wind. He reached the island on the Sunday (October 28), and on October 30 the Indians on board the "Pinta" were understood to say that a place called *Cuba* was four days up a certain river. Las Casas adds a note remarking how they had to grope through not understanding the Indians, and is of opinion that they referred to the province of *Cubanacan.* Navarrete, however, says they meant *Cuba,* the capital of the island. The word *Cubanacan,* according to Las Casas,[206] is composed of *Cuba* and *nacan,* the latter word meaning the middle or in the middle, and so the land or province in the middle of Cuba. Brinton[207] derives it from Arawak annakan, center. Wiener prefers[208] to take this explanation about *Cubanacan* from Herrera, although it *first* appears in Las Casas, and it is his (Las Casas') suggestion that the place referred to by the Indians in speaking to Martin Alonso Pinzon was this *Cubanacan.*

Wiener seeks to maintain his thesis in the following extraordinary fashion:—

> "On November 2 Columbus decided to send Rodrigo de Xeres and Luis de Torres, who had lived with the Adelantado of Murcia and was a Jew and knew Hebrew and Chaldaic and some Arabic, to see the king of Cuba, in order to present the letters and find out all that was necessary. Naturally, a man who knew Arabic, and another who knew the language of Guinea, as we heard before, were especially adapted to hold converse with the kings of the Indies. There can also be no doubt that many of the queer etymologies which we shall encounter really proceeded from these two eminent philologists, the Guinea sailor and the Jew Torres. We saw that 'Cipango' produced some such form as 'Cūpāgō,' which led to 'Cubanacan.' Somebody at once suggested that this must be 'Cublaycan,' 'the Great Khan,' 'but they soon found out' that the etymology really meant 'inside of Cuba,' Herrera suggesting the division 'Cuba + nacan.' In reality the division is 'Cubana + can,' where 'can' stands for Mandingo 'konno,' 'inside.' Here obviously the Guinea ambassador suggested the etymology. Columbus at first accepted the first verdict and so wrote 'Colba,' for 'Cobla,' as the name of the island, which he at once changed to 'Cuba.' "

Iguana. Wiener says[209] that the Mandingo word *kana,* "monitor, the African lizard" produced Spanish *iguana,* "the American lizard;" and adds that

> "The dictionaries absurdly speak of a Haitian or Carib word from which 'iguana' is derived."

He even asserts that nowhere is this word mentioned as an Indian name.

---

[205] Nav., *op. cit.,* vol. I, pp. 37, 38, 40, 44.

[206] Las Casas, *Hist. Ind.,* LXII, pp. 323–324.

[207] Brinton, *op. cit.,* p. 439.

[208] Wiener, *op. cit.,* vol. I, pp. 10, 12.

[209] *Id.,* p. 33.

Columbus describes[210] how on October 21, 1492, they saw a serpent which as soon as it saw them went into the lake, they followed and killed it. Las Casas add a note “Yüana debió de ser esta.” In his *Historia de Indias*[211] he gives an account of this creature, says that the Indians and Spaniards find it good eating, and goes on to say that the Indians of Haiti call it *iguana.* In his later work[212] the word is spelled *yuana.* The fifth Book of Peter Martyr's First Decade in 1511[213] gives the spelling *Juánas.* We have to remember that *j* and *i* and also *u* and *v* were at that date often interchanged, so that these forms of the Haitian name were probably pronounced *yvana, i.e., iguana,* or, *y-ua-na.* Brinton gives[214] *joanna* as Arawak for “lizard.”

Haiti. Wiener quotes[215] from the *Institución del Mayorazgo,* dated February 22, 1498, but leaves out an important word; Columbus writes[216] of the islands he has discovered, and says that

> “entre las quales es la Española, á que los Indios d'ella llaman ‘Feiti’ y que los Monicondos ‘de Zipango.’ ”

The Indians of Española call their island *Heiti,* for *f* and *h* are interchangeable; and these other people, whoever they were, and we are not concerned with them, call it the island of Zipango. Columbus still imagines he has reached an Asiatic island. Doctor Chanca in 1494, says[217] that the part of the island they arrived at first they call *Hayti.* Peter Martyr in 1516 says[218] they called the island first *Quizqueia,* and then *Haiti,* which means “roughness.” Las Casas gives[219] *Haytí,* the emphasis on the last syllable, as an alternative name for that part of the island also called *Çibao.* Brinton[220] derives the name from Arawak *aessi* or *aetti,* a stone. Vespucci, in the account of his First Voyage, refers[221] to an island which its inhabitants called *Iti.* The Guaraní word[222] for stone is *ytá* and in Makuchi, a Carib dialect, it is *te,* (the e pronounced like French e in *je*). When, therefore, Wiener says[223] that because Columbus wrote in 1502:—

---

[210] Nav., *op. cit.*, vol. I, p. 36.

[211] Las Casas, *Hist. Ind.*, LXII, p. 314.

[212] Las Casas, *Hist. Apol.*, p. 26.

[213] Peter Martyr, *op. cit.*, Edition, 1511, Dec. I. Lib. V. fol. e v.: “Iuánas serpētes vocāt.”

[214] Brinton, *op. cit.*, p. 439.

[215] Wiener, *op. cit.*, vol. I, pp. 23–25.

[216] *Raccolta di Documenti, op. cit.*, Parte I, vol. I, p. 304.

[217] Nav., *op. cit.*, vol. I, p. 209.

[218] Peter Martyr, *op. cit.*, Edition, 1516, Dec. III. Lib. VII. fol. g. viij.: “Nomīa hispaniolæ a primis habitatoribus imposita fuere: primum Quizquéia: de hinc haiti neqz hæc ad imponentium uoluntatem solu: sed ab affectu credito ab eis. Quizqueiam dicunt rem grandem qua nulla sit maior: Quizqueiam interprætantur uastitatem & uniuersum ac totum: uti græci suum panem: Quia sunt arbitrati: ob eius magnitudinem esse uniuersum orbem terrarum: neqz sole calefieri quicq̄z aliud præter eam insulam cum adiacentibus cæteris propterea quizqueiam dici debere statuerunt. Haiti uero dicitur asperitas eorum uetere līgua:” And in *Vocabvla Barbara:* “Haití: nomen mōtis & hispaniolae horrores & asperitas.”

[219] Las Casas, *Hist. Apol.*, pp. 17, 38, 516.

[220] Brinton, *op. cit.*, p. 438.

[221] Vespucci, *op. cit.*, fol. b. ii.: “& surgēmo con una di epse: doue uedēmo molta gente che la chiamauano Iti:”

[222] Ruiz de Montoya, *op. cit.*, p. 178.

[223] Wiener, *op. cit.*, vol. I, p. 23; Ferdinando Colombo, *op. cit.*, p. 190.

"This island is Tharsis, Cethya, Ophir, and Ophaz, and Çipanga, and we have called it Española.

It is perfectly clear that Peter Martyr changed *Cethya* into *Haiti,* and *Ophyr y Ophaz* into *Quizqueia;* we prefer to think that this writer had a much more thorough knowledge of and regard for the truth than is always the case at the present day. Ramon Pane writes of Española, formerly called *Aiti.*

Batatas. Las Casas, referring to an entry in the Journal of the First Voyage, under date of November 4, 1492, says[224]:—

"Los ajes ó batatas son estos."

He also refers to *batatas* in the *Historia de Indias.*[225] Peter Martyr[226] mentions them in Book nine of the Second Decade, and in his *Aboriginal Vocabulary* gives *Battáta* as the general name of a root. De Candolle[227] recognizes that arguments exist in favor of an Asiatic origin of the sweet potato, but the powerful arguments in favor of its American origin seem to him much the stronger. He sums up the evidence for his argument. Cobo gives[228] this name as belonging to the language of Haiti, and says that the Spaniards called it *camote,* a word from the Mexican language. Wiener says[229] that the *mames* mentioned on November 4, are unquestionably "yams" and not sweet potatoes; there is no reason for this statement, although they may have been "sweet cassava," as they looked like carrots and tasted somewhat like chestnuts. It is possible that Las Casas may have misidentified them on this occasion as *ajes* or *batatas.* But, undoubtedly, Peter Martyr, Las Casas, and Oviedo knew both the "sweet potato" and its name, "batata," Wiener says[230]:—

> "We shall also see that 'age' is originally the name of the yam, and not of the sweet potato, and that throughout the world the two were confused, and the same name served for both. Hence we have nothing in Oviedo to warrant the conclusion that the sweet potato was a native of America."

We have seen already that the *age* is neither the yam nor the sweet potato and neither in Peter Martyr, Las Casas, nor Oviedo are the *ages* and sweet potatoes confused. The Guaraní name[231] for the sweet potato is *yetĭ;* Hans Stade mentions[232] roots called *jettiki* of pleasant taste, and continues thus:—

> "When they plant them they cut small pieces; which are placed in the earth: these then grow, and spread over the ground, like hop trees, throwing off many roots."

De Léry gives[233] the word *hetich* as the name of three varieties of roots, one of which would appear to be the sweet potato. Wiener quotes[234] the above passage from Hans Stade and refers to De Léry's word, but will have it that both writers refer to yams. An able tropical gardener says[235] of the sweet potato:—

---

[224] Nav., *op. cit.,* vol. I, p. 49.

[225] Las Casas, *Hist. Ind.,* LXII, p. 329.

[226] Peter Martyr, *op. cit.,* Edition, 1516, Dec. II. Lib. IX.

[227] De Candolle, *op. cit.,* p. 53.

[228] *Historia del Nuevo Mundo* por el P. Bernabé Cobo de la Compañia de Jesus, Sevilla, vol. I, 1890, vol. II, 1891, vol. III, 1892, vol. IV, 1893. See vol. I, p. 356.

[229] Wiener, *op. cit.,* vol. I, p. 192.

[230] *Id.,* I, 204.

[231] Ruiz de Montoya, *op. cit.,* p. 195.

[232] Hans Stade, *op. cit.,* 1874, p. 166.

[233] Gaffarel, Paul, *Jean de Léry Histoire,* Paris, 1880, vol. II, p. 25.

[234] Wiener, *op. cit.,* vol. I, p. 263.

> "It is propagated by cutting up the tubers which produce a quantity of shoots; the points of the shoots are also taken off and planted as cuttings which take root in a few days and grow rapidly."

Thus it is reasonable to assume that both Hans Stade and De Léry refer to the sweet potato, and so give a name evidently based on the Guaraní already mentioned. The word *hetich,* of course, has nothing whatever to do with Doctor Chanca's word *hage,* as Wiener supposes. Cobo gives[236] *apichu* as the Quíchua, and *tuctuca* as the Aymará word for *batata,* the Spaniards, he says, called it *camote,* from the Mexican. Wiener refers[237] to the original of this word in Molina, *camotli,* but is of opinion that the Mexicans derived the word from a native word of the Philippine Islands meaning "root," because he finds that sweet potatoes were cultivated there before the discovery of America in 1492!

Macana. The Journal for January 13, 1493, mentions[238] a piece of very heavy wood (*un pedazo de palo, muy pesado*), which the Indians carried instead of a sword and Las Casas in a note explains that these weapons they call *macanas.* He describes[239] this weapon in the *Historia,* once without its name, and also, with its name. Peter Martyr[240] has the Word in Book III of Decade II. Wiener says[241] the word is Old Spanish, *macana, mazana,* "knob." He proves what he calls "the absurdity of its Indian origin" by finding *makana, makaña,* "wooden sword," and *makay,* "to fight, to beat," in the earliest Peruvian dictionaries, and *makhaña,* "a stick with an iron or bone point," in Aymará. Bertonio, it is true, has *makhaña,* as Wiener gives it, but, whatever this thing is, it is not the *macana* of Las Casas, for Bertonio translates *Maça* or "*porra de piedra con la manga de palo*" by the word *chahua*; and in Holguin's *Quichua Dictionary* of 1612, we find *maccani,* "to fight with the hands," evidently from *maqui,* "the hand;" to fight in warfare is *auccanacuni*; while the *maça* or *porra de armas* is *champi.* Again we may suppose that Las Casas and Peter Martyr knew what they were writing about. Figueiredo's *Portuguese Dictionary*[242] expressly accentuates the word on the last syllable, *macaná.*

Maraca. Wiener derives[243] this word from Arabic *mitraqah,* "a sounding board;" this, he says, became Portuguese *matraca,* a "rattle;" and hence *maraca,* the Indian rattle. The Guaraní word[244] is *mbaracá,* which means a calabash with beads inside, used as a kind of musical instrument. Hans Stade says[245] they called the rattle *maracka*; De Léry mentions it[246]. Schulz in his *Arawak Dictionary* has *marraka,* a calabash. We may suppose that the word originally meant a ‘‘calabash’’ and retained the name even when the calabash was used in special ways; the similarity in sound to the Arabic is probably quite accidental, and the American word has no *t* in it like the Arabic and Portuguese.

---

[235] Waby, John F., *Tropical Gardening in British Guiana,* Demerara, 1893, p. 120.

[236] Cobo, *op. cit.,* vol. I, p. 356.

[237] Wiener, *op. cit.,* vol. I, pp. 264, 265.

[238] Nav., *op. cit.,* vol. I, p. 135.

[239] Las Casas, *Hist. Ind.,* LXII, p. 435; LXII, p. 57; *Id., Hist. Apol.,* p. 38.

[240] Peter Marytr, *op. cit.,* Edition, 1516, Dec. II. Lib. III. fol. d. vij. "Sunt autem ipsorum arma non arcus: non sagittæ uenenatæ: uti habere īdigenas illos trans sinum orientales diximus. Cominus hi certant ut plurimū ensibus oblongis quos macanas ipsi appellant: ligneis tamen: quia ferrum non assequūtur: & præustis sudibus aut osseis cuspidibus missilibus etiam ad prælium utuntur."

[241] Wiener, *op. cit.,* vol. I, pp. 57, 56.

[242] de Figueiredo, Candido, *Novo Diccionário da Língua Portuguesa,* two vols, Nova Edição, Lisboa, 1913.

[243] Wiener, *op. cit.,* vol. III. p. 193; vol. I, pp. 134, 135.

[244] Ruiz de Montoya, *op. cit.,* p. 212.

Cemi, Cimiche, Cimini. The people of Haiti had certain images or idols made of wood or stone called *Cemí,* the emphasis, according to Las Casas,[247] to be on the last syllable. They are mentioned by Peter Martyr in 1511,[248] by Ramon Pane, and by Ferdinando Colombo, and one infers from the accounts given by these authors that these images represented to the minds of the islanders some kind of spiritual existences. Breton gives[249] *Icheíri, Ichéiri,* as a word used by the men of the Carib islands for ‘‘God,’’ and *Chemiin, Chemijn, Çemijn,* as the word used by the women. De Rochefort gives the same words. We find in Galibi[250] the word *issiméi* for ‘‘spirit;’’ and in Arawak[251] *semetti,* plural *semehiu;* and *semetitti,* plural *semettihi,* for ‘‘magician (Zauberer).’’ Wiener, apparently, allows that these words are really American,[252] but thinks that the word *cemi* denotes the Bambara benevolent spirit *dyine, nyena,* from the Arabic *ǵinn.* He does not explain why the Americans as well as the Africans may not have formed the idea of spirits and images.

Behique, Bohique, Behico, Bohuti, Bohuitihu, Bouijtas, Boiitius, Bouitus, Buhiti. These are probably different spellings of one original word. This name of the native magician or medicineman, as he is usually called by Europeans, is found in the 1511 edition of Peter Martyr,[253] in reference to Haiti; in Ramon Pane, from whom probably the information was at first derived; in Las Casas; and in Oviedo. The Guaraní name[254] is *Paye*; the Galibi is *Piaye*; and other variations are: *Piache, Peai,* etc. Breton gives[255] the Carib as: *Boyáicou, Bóye, Niboijeiti.* In Breton, a bad spirit is, *Mápoya,* and in De Rochefort, *Maboya,* or, *Mopoya.* It is possible that all these words are connected, the medicineman being one who has to do with spirits. Wiener[256] brings them all together, as well as *Boratio,* the name used in Oviedo's time in Venezuela; and identifies the *Maboya* with the African *bori,* and the medicineman with the Mandingo *Boritigi,* the “Owner of the Bori.” “The resemblance,” he says, “is so close, that nothing needs to be added.” This seems a fairly easy method of proving one's point.

---

[245] Hans Stade, *op. cit.,* 1874, p. 123.

[246] Jean de Léry, *op. cit.,* vol. I, pp. 131, 133; vol. II, p. 17.

[247] Las Casas, *Hist. Apol.,* p. 322.

[248] Peter Martyr, *op. cit.,* Edition, 1511, Dec. I. Lib. X. fol. f. v.: ‘‘īternūciosqz esse zemes putāt. Quisqz reguls suuz habet zemē: quem colat.’’

Ferdinando Colombo, *op. cit.,* but see 1571 edition, fol. 132: ‘‘& in detta grotta stauano dui Cimini, fatti di sasso, piccioli, della grandezza di mezo braccio.’’ Also fol. 125: ‘‘In questa casa hanno una tauola ben lauorata, di forma rotonda, come un tagliere, nella qual sono alcune poluere, che da lor son poste sopra la testa de’ suddetti Cimi, facendo certa ceremonia:’’

[249] Breton, R. P. Raymond, *Dicctionaire Caraibe-François,* Auxxerre, 1665, pp. 283, 135. And p. 118 of the 1666 (François-Caraibe). de Rochefort, C., *Histoire Naturelle et Morale des Iles Antilles de l'Amerique,* second edition, Rotterdam, 1665, p. 583.

[250] *Voyage a la Guiane et a Cayenne,* par L. . . . M. . . . B. . . ., Paris, An VI, p. 383.

[251] MS. Theodor Schulz, p. 490.

[252] Wiener, *op cit.,* vol. III, pp. 222, 223, 142.

[253] Peter Martyr, *op. cit.,* Edition, 1511, Dec. I. Lib. X. fol. f vj.: ‘‘His illos imbuunt supersticionibus eom augures quos bouijtas vocant: sunt et ijdem medici qui plebecule rerum inscie mille astruunt fraudes.’’

Ferdinando Colombo, edition, 1571, fol. 133: ‘‘Son alcuni huomini, che pratticano fra loro, & son detti Bohuti: il quali fanno molti inganni.’’

Las Casas, *Hist. Apol.,* pp. 322, 323, 447, 535.

Oviedo, *op cit.,* 1535, Lib. V. c. j. fol. xlv.

[254] Ruiz de Montoya, *op. cit.,* p. 261.

Areytos. These were songs, accompanied by dances, by means of which the Indians of Haiti, and other islands, handed down the history of their past. They are mentioned by Peter Martyr in 1516;[257] by Oviedo in 1535;[258] and Las Casas[259] in the *Brevissima relacion* of 1552, mentions them in Cuba in connection with a cacique who had come from Haiti. The word is from the Arawak,[260] *aritin,* to name, to give a name. Wiener says[261]:—

> “The ‘areyto’ is chiefly a eulogy on the dead,”

and having made this unwarranted statement, he finds in the Tupi language words corresponding with the Arabic *marsāh,* “funeral speech;” and “*therefore* (Arawak) *areyto,*” and the Carib word for “to sing,” are doubtless the Arabic *rasa,* “to sing the praises of the deceased.” In Galibi,[262] which is only another spelling for Carib, “to sing” is *eremi,* or, *ilemy,* and this, says Wiener[263]:—

> “is, no doubt, related to the Bambara ‘yelema,’ to make fun of.”

Why a superficial resemblance of form should lead to the identification of words expressing quite different ideas is difficult to imagine. The Guaraní word for “song”[264] is *poraheî, mboraheî;* Adam gives[265] *poraséi,* and dialectical variations, for “dance, song;” and the *Diccionario Anonymo*[266] has *poracê,* to dance; *moporacéya,* to make to dance. Wiener supposes[267] these American words to have come from the Arabic through African languages, although he admits the absence from African dictionaries of such Arabic words! Hans Stade mentions[268] *aprasse,* which he discovered meant "dancing," and which is doubtless the same word from the Guaraní still used by the Makuchi Indians of British Guiana, when they speak of their *parishara* dance.

---

[255] Breton, *op. cit.*, 1665. pp. 83, 424; *Id.*, 1666, p. 158.
De Rochefort, *op. cit.*, p. 583.

[256] Wiener, *op. cit.*, vol. III, pp. 223, 226.

[257] Peter Martyr, *op. cit.*, Edition, 1516, Dec. III. Lib. VII. fol. g. viii. “particulari alteri de parentum auorum atauorū qz ac maiorū omnium p̄clare gestis bello & pace: quæ duo præcepta rhithmis habēt cōposita eorum lingua. Hos aréitos appellant.”

[258] Oviedo, *op. cit.*, 1535, Lib. V. fol. xlv, xlvj. (In this Areyto more than 300 maidens joined).

[259] de las Casas, Bartolome, *Breuissima relacion de la destruycion de las Indias,* Impressum Hispali, 1552, Fol. b.iij.

[260] MS. Theodor Schulz, p. 186: “Aritin, nennen, einen Name geben.”

[261] Wiener, *op. cit.*, vol. III, pp. 201, 211, 208, 210.

[262] *Voyage a la Guiane, op. cit.*, p. 377.

[263] Wiener, *op. cit.*, vol. III, p. 210.

[264] Ruiz de Montoya, *op. cit.*, p. 315.

[265] Adam, Lucien, *Grammaire Comparée des dialectes de la Famille Tupi,* Paris, 1896, p. 130.

[266] Platzmann, Julio, *O Diccionario Anonymo da Lingua Geral do Brasil,* Leipzig, 1896, pp. 18, 145.

[267] Wiener, *op. cit.*, vol. III, pp. 208, 212.

Peanut (*Arachis hypogœa*). Waldron says[269]:—

> "In the mind of the writer, there are sufficient facts at hand to state definitely, as have one or two already, that it (the peanut) is a native of Brazil, although, as with many other extensively cultivated plants, it has never been recognized in the truly wild state. There is no evidence to contradict the view that it is a native of this part of South America."

Oviedo in 1535 says[270] that it was called *mani* in Haiti. In Mexico it was called *cacahuate, cacahuete, tlalcacahuate.* We find in Molina[271]: *tlalli,* "earth;" *etl,* "bean;" *cacauatl,* "cocoa," "earth cocoa bean." The Guaraní word[272] *mãndubí* is translated *mani.* Oviedo in Book XXIII, referring to Paraguay, has the word *mandubí,*[273] and de *Léry*[274] has *manobi.* Cobo gives[275] *mani* as a word from Haiti, the Mexican name as *cacaguate,* Quichua *inchic,* and Aymará as *chocopa.* De Candolle,[276] summing up the evidence for its origin says:—

> "All these facts point to an American, I might even say a Brazilian origin."

He is inclined to believe

> "that the first slave-ships carried it from Brazil to Guinea, and the Portuguese from Brazil into the islands to the south of Asia, in the end of the fifteenth century."

Wiener says[277] the peanut was imported into America from Africa. The name in Sicily of the *cyperus esculentus* is, says Wiener, of Arabic origin, this Arabic word traveled into Africa and became the name of the peanut,

> "showing conclusively that the peanut must be an Arabic importation into Africa, and as the Negro word, derived from this Arabic source, lies at the basis of the Brazil word for the same plant, it is clear that it must have been imported from Africa into Brazil."

On one page we are told that the "manduwe forms are good Negro words," from which the Brazilian word *mandubi* is derived; on another, that the

> "African words mandwe, ndũwe, mandũwe, are apparently Portuguese importations."

---

[268] Stade, Hans, *op. cit.,* 1874, p. 62.

[269] Waldron, Ralph Augustus, The Peanut (*Arachis hypogœa*)—Its History, Histology, Physiology, and Utility, *Contributions from the Botanical Laboratory, University of Pennsylvania,* vol. 4, no. 2, pp. 301–338, Philadelphia, 1919, p. 302.

[270] Oviedo, *op. cit.,* 1535, Lib. VII. cap. v. fol. lxxiiij: "Otra fruta tienẽ los indios en esta ysla española q̃ se dize Mani: la q̃l ellos sembran y cojen y les es muy ordinaria planta en sus huertas: y es tamaña como piñones com cascara:"

[271] Molina, *op. cit.,* pp. 124, 10 and (Span.-Mex.) p. 64.

[272] Ruiz de Montoya, *op. cit.,* p. 206.

[273] Oviedo, Edition, 1851, vol. II, p. 193 (Lib. XXIII. cap. 12): "y hay una frúcta que se dice 'mandubí,' que se siembra y nasçe debaxo de tierra, y tirándose la rama se seca ó arranca, y en la rayz está aquel fructo metido en capullos como los garbanços y tamaño como avellanas, y assados y crudos son de múy buen gusto."

[274] Jean de Léry, *op. cit.,* vol. II, p. 26.

[275] Cobo, *op. cit.,* vol. I, p. 360.

[276] De Candolle, *op. cit.,* pp. 414, 415.

[277] Wiener, *op. cit.,* vol. I, pp. 251, 252, 260, 254.

The form *tiga,* from Pul *tigādze,* produces plural forms, *mantīa, mandūwe;* the forms *matiga, matia,* "would be possible in Mandingo." The multiplication of examples of African words without any reference to the dates when they were first noted, and with no exact meanings attached, does not help much in proving Wiener's theory. The last edition of the Spanish Academy Dictionary is satisfied to state that *Cacahuete* is from the Mexican *cacahuatl,* which means "cacao."

Guatiao, Datihao. Las Casas says[278] that *Guatiaos* are friends and brothers in arms, for they have exchanged names. Oviedo[279] has the word *Datihao* which, he says, means "my master" (*mi señor*), or, "the one who bears my name" (*el que como yo se nombra*). Wiener says[280]:—

> "It does not take much to observe that we have here Arabic 'wadī'ah,' 'subject, convention, protection,' from wada'a, 'to deposit, make a treaty.' "

The word has been confused with another Arabic word meaning "promise." An interesting series of African words come from these, meaning trade, market, etc., and from the idea of barter, an exchange between two persons; hence, the exchange of names among the Indians. Wiener, in fact, reads into the Indian word certain extraneous and irrelevant ideas. Brinton derives[281] the word from the Arawak *Ahati,* "companion, playmate."

Duho. Las Casas[282] tells us that the Admiral went ashore on December 28, 1492, when the Indians made him sit down on a seat which they called *duho,* it had a back, was low, polished, and beautiful. In the *Historia Apologética* he calls them *duohos,* the first syllable long, and says they were very well finished. Brinton[283] derives this word from Arawak *dulluhu* or *durruhu,* a seat, bench. Wiener says:—[284]

> "It is not difficult to see that this is the Persian-Arabic, taht, plural tuhut, a royal throne, chair of state; sofa, bed: any place raised above the ground for sleeping, sitting, or reclining: a capitol, royal residence."

This Persian word has certainly a great variety of meanings, but it seems easier to follow Brinton, and connect *duho* with an American word.

Conuco. Oviedo calls by this name the plantations of maize, yuca, and fruit trees, on the islands of Haiti and Cuba.[285] Las Casas explains[286] that the penultimate is long. In Ramon Pane the plural is written *conichi.*[287] There is an Arawak word,[288] *kunuku,* which means "forest, bush." The Kanuku ("Cunuku" in the 1875 map) Mountains in the south of British Guiana are thickly wooded. It may be that the plantations in Haiti became known by this name, as being situated in clearings in wooded country, which is still the Indian method of cultivation. For Wiener[289] it is Mandingo *kunko,* "farm."

---

[278] Las Casas, *Hist. Ind.,* LXIV, p. 47.

[279] Oviedo, *op. cit.,* Edition, 1535, Lib. XVI. cap. v. fol. cxxj: "y entonces dixo el Cacique adelante, adelante, a mi datihao, (que quiere dezir mi señor, o el que como yo se nombra) dexa esse vellaco,"

[280] Wiener, *op. cit.,* vol. III, pp. 187, 188.

[281] Brinton, *op. cit.,* p. 438.

[282] Las Casas, *Hist. Ind.,* LXII, p. 409; *Id., Hist. Apol.,* p. 446.

[283] Brinton, *op. cit.,* p. 438.

[284] Wiener, *op. cit.,* vol. III, p. 218.

[285] Oviedo, *op. cit.,* Edition, 1535, Lib. VI. cap. j. fol. lviij: "E junto a sus lugares tenian sus labranças y conucos: que son sus eradades de mahizales, y yuca y arboledas de fructales."

[286] Las Casas, *Hist. Apol.,* p. 28.

[287] Ferdinando Colombo, *op. cit.,* p. 192.

[288] MS. Theodor Schulz, p. 421.

Hammock. Wiener[290] reads in the Journal, on November 4, 1492, Columbus' reference to

"cotton, which they do not sow and which grows in the mountains, large trees of it:"

and considers the entry as quite conclusive proof that Columbus found only the silk-cotton of the *Ceiba* tree (*Bombax ceiba*). Wiener himself says, however, that this silk-cotton does not twist and cannot be used by itself as a textile. Columbus could not fail to notice these great trees, but there is no reason to suppose that he did not see cotton growing; at all events, he expressly mentions the beds of the Indians being made of cotton, and their gifts of cotton balls. On October 12, 1492,[291] the day of the first landing, the Guanahaní Indians gave him cotton thread in balls; on October 16, he saw cloths of cotton, and women wearing small cotton aprons, doubtless the *queyu* or *mosa* still worn by Indian women in parts of British Guiana. On October 17, another reference, and to the "*bragas de algodon*" worn by the married women. Spun cotton, etc., was brought him on November 1. Las Casas says[292] that the beds of the Indians were like nets of cotton and were called *hamacas.* He says these were made of twisted cotton threads (*hilos de algodón torcidos*), and he also mentions the women's coverings of cotton cloth. De Candolle says:—[293]

> "In conclusion, if historical records are positive in all that concerns the use of cotton in America from a time far earlier than the arrival of Europeans, the natural wild habitation of the plant or plants which yield this product is yet but little known."

Wiener quotes[294] Herrera as he finds him rather fuller than the corresponding passage by Columbus given on August 16, 1498;[295] and finds fault with the latter for not mentioning *cabuya.* Herrera takes the details from Las Casas who explains[296] that by *lino* Columbus must have meant *cabuya.* Las Casas, Oviedo, and, doubtless, others, knew the difference between cotton and *cabuya.* Wiener says:—[297]

> "Authors from Oviedo until the present time unanimously assert that under the Spaniards the cultivation of cotton declined very rapidly, but this is contradicted by Columbus' law of 1496, which made every effort to introduce cotton on a large scale, but completely failed because the Indians had not been used to it."

Because Columbus ordered[298] certain persons to give an *arroba* of cotton, it does not prove that special efforts were made to grow it, nor that the cotton came in; and the last assertion is simply Wiener's unsupported statement. Doctor Chanca learnt[299] to distinguish the Carib from other Indians by their habit of wearing on the ankles and near the knees woven bands of cotton, a custom still in use among Indians of Carib race in British Guiana. He mentions the cotton aprons of the women; the bed, made of cotton, suspended in the air, and distinguished the silk-cotton trees from others bearing a similar product. The Guaraní word for cotton is *amãndi yû*; the Mexican, *ychcatl*; and the *Makuchi, kotoka.*

---

[289] Wiener, *op. cit.,* vol. I, p. 161.

[290] *Id.,* vol. II, p. 27.

[291] Nav., *op. cit.,* vol. I, pp. 21, 29, 31, 32, 45.

[292] Las Casas, *Hist. Ind.,* LXII, pp. 310, 308, 311; *Id., Hist. Apol.,* p. 516.

[293] De Candolle, *op. cit.,* p. 410.

[294] Wiener, *op. cit.,* vol. II, p. 30.

[295] Thacher, *op. cit.,* vol. II, p. 406.

[296] Las Casas, *Hist. Ind.,* LXIII, p. 315.

[297] Wiener, *op. cit.,* vol. II, p. 29.

[298] Las Casas, *Hist. Ind.,* LXIII, p. 102.

[299] Nav., *op. cit.,* vol. I, pp. 204, 221, 222, 217.

Wiener says[300] it was Herrera who first gave the word *guatiao,* under the date of 1502; we have seen that this word occurs in Las Casas, from whom, no doubt, Herrera took it. For some reason or other Wiener draws very little on Las Casas, who had such ample opportunities of knowing the details of early aboriginal life in America. Can it be that Wiener is not so familiar with Spanish as with some other languages? At all events in quoting[301] from Bernáldez, he twice translates *acá* as "there"; and so fails to give the correct sense of the passage, which refers to there being in the discovered islands no animals of the kinds they had in Spain; but certain large rats were eaten just as rabbits are eaten here in Spain. He next suggests, as explaining the (to him) supposed native word *guamiquina,* that it was a misreading of "como acá llamaban al señor grande," which he supposes must have been placed in the margin, and which he translates "as there they called a great lord"; and so completely misses the point of the remark.

The potato, manioc, and maize, according to Payne,[302] were indigenous to the New World and absolutely unknown in the Old; and no roots of the Old World are comparable for a moment to the potato and the manioc as food staples for temperate and tropical climates, respectively. Referring to the West Indian Islands, Payne says that the manioc, *aje,* and sweet potato were the chief food staples; and that maize, which apparently had recently been introduced, was cultivated only to a limited extent, and was not in general employed for bread-making.

It may not be inappropriate here to quote the following from Payne[303]:—

> "The number of sounds which can be produced by means of the organs of speech, considerable though it is, is not unlimited. That a certain percentage of these sounds should in certain different languages approximately designate the same things could be no matter for surprise. Occasional resemblances between the names bestowed upon things in different languages are still more likely to occur. Nothing short of a continuous miracle could prevent such coincidences."

We find in conclusion that Wiener in his desire to establish a certain thesis, brings forward some evidence, and this, when tested, is sometimes found insufficient for the purpose of the argument, sometimes it turns out to be no evidence at all, sometimes the translations are wrong. It seems therefore permissible to think that notwithstanding these three volumes of considerable learning, it is not unlikely that Columbus is right, and those who impugn him are wrong.

TILEHURST, BERKS,
ENGLAND.

---

[300] Wiener, *op. cit.*, vol. III, p. 186.

[301] *Id.*, vol. I, pp. 59, 60, 61.

[302] Payne, Edward John, *History of the New World called America*, two volumes Oxford, 1892; 1899. See vol. I, pp. ix, 306, 313.

[303] *Id.*, vol. II, p. 78.

PHYSICAL ANTHROPOLOGY

SOME POINTS IN THE MORPHOLOGIC EVALUATION OF THE AMERICAN INDIAN

BY BRUNO OETTEKING

THE evaluation of individual and group morphology, *i.e.,* the study of phaenotypical appearance, is to a great extent dependent upon descriptive and, for more exact formulation, upon metrical comparison. Considering in this respect particularly the morphology of the American Indian, it may be of interest to review and present in a concise way the means and methods by which physical anthropology might and does attempt the solution of this interesting problem. The comparative means are naturally found in the organic spheres around the center of dispersal, and may be rated according to the degree of remoteness from such a center. But since we are dealing with a human variety, it seems quite logical that other human varieties must be selected for comparison. However, two principal angles present themselves in this respect from the very beginning. Purely morphologic evaluation will have its emphasis upon evolutional, or more precisely, phylogenetic considerations, while from the racial viewpoint the morphologic evaluation of race characteristics will have to be stressed. The problem, in other words, may be dealt with either in the vertical or the horizontal aspect.

The premises for these two aspects are naturally provided by different groups of argument. The phylogenetic aspect will have to resort to the morphology of ancestral forms as given within the genus *homo* by the cruder or more primitive types of the species *Homo sapiens* or *recens* and furthermore by the latter's possible antecedent, the species *Homo primigenius.* For the direct genetic derivation of the higher species from the lower is still a moot question and has about as many arguments in favor of it as against it. Superficial comparison, for instance, of the skull of La Chapelle-aux-Saints and a recent Indian skull will doubtless immediately dismiss the possibility of any genetic affinity between the two. By close examination, however, of the various specimens of the species *Homo primigenius* or *neandertalensis,* it is quite evident that certain morphologic formations not only point to type variability within this species, but also to changes of transitional significance. There is, thus, a difference in the vaulting of the characteristically low forehead of the species *Homo primigenius* to such an extent that the bregma angle as formed by the glabella-inion and glabella-bregma lines between Spy II and La Quina attains 13°, and between Gibraltar and La Quina even 16°, while the same angle between Gibraltar and the upper palaeolithic specimens of Brünn I, Cro-Magnon, and Combe Capelle varies between 10° to 12° and between Spy II and the latter by 13° to 15°. Whether Combe Capelle, Klaatsch's *Homo aurignacensis* could really be estimated a transitional type towards *Homo sapiens,* a possibility which Klaatsch himself emphatically denied, is too early to decide at our present state of phyletic reconnaissance and was intended to be touched upon only objectively in this connection. But the Neandertaloids are of decided importance from the angle of critical diagnosis for the reason that outside of their primitive morphologic characteristics they do not possess a sufficient number of definite configurative or collective traits to suggest racial specialization within the species primigenia. In comparison with the higher racial specializations of a later evolutional stage the whole Neandertaloid complex from the comparative angle still represents a stage of evolutional potentiality. It is quite plausible, therefore, that certain morphologic details in recent human varieties are directly traceable to such primitive conditions. Entirely different is the comparative value of the anthropoid complex. Although their representatives have a number of primitive traits in common with those of *Homo primigenius* which very probably go back to some common ancestral stock, the high individual specialization of the anthropoid apes is such an indisputable fact that from the viewpoint of direct derivation they are to be eliminated from the human evolutional line. If physical anthropologists, comparative anatomists or morphologists nevertheless draw upon the anthropoid morphology, it is well understood by them that no direct genetic relation exists between those forms and the human or pre-human ones. But it may perhaps not be superfluous to keep repeating this statement to the interested layman who is, unfortunately, too easily persuaded by a traditional error of the popular concept of the descent of man from apes, by which hint Lamarck has wrought such an apparently irreparable misconception.[1]

The horizontal aspect of race diagnosis, on the other hand, concerns itself with the morphologic appearance of the individual or group and their morphologic affinities with the original racial stocks or the latter's racial offshoots. In this specific case we are dealing with somatic and somatometric as well as morphologic observations. Thus, while the latter will have to consider the skeleton and preëminently the skull and, in this connection, trespass upon phylogenetic grounds, the somatic and somatometric investigation will have to rely on comparison with the living. That we are aided in such procedures to some extent by the geographical continuity of somatic type was shown by Clark Wissler in his recent book, *The Relation of Nature to Man in Aboriginal America* (1926). The problem becomes more complicated, however, when it comes to certain ethnical groups at the extreme edges of the continents or in the latter's natural fastnesses and retreats, where superior fitness and impetus banished them. Such enforced migratory and amalgamative conditions gave rise to what Griffith Taylor appropriately called Shatter belts signifying such outlying territories where beyond the boundaries of the stronger racial varieties the weaker and, as a rule, morphologically more primitive, racial elements subsist as *Randvölker* or *Primitivvölker.* Such areas are to be found in the Americas at the extreme northern and southern extensions, the hinterlands of Panama, Bolivia, and Ecuador.

Since the Mongol affinities of the American Indian have been pointed out frequently enough by the American anthropologists and have been fairly substantiated on Mongolian soil by Hrdlička's unceasing efforts, an enumeration of Mongolo-Indian morphological characteristics appears unnecessary in this brief report. Of considerably greater importance seems to be the realization and evaluation of primitive morphologic traits with their direct bearing upon phylogenetic conditions. Primitive traits or reminiscences thereof may and do occur in the various skeletal regions, but their systematic enumeration remains a desideratum as yet due to the less intensive study of the skeletal parts in preference to the skull. Attention may be called, however, to the cases of steeper slanting spinae scapulae, the strongly developed medial epicondyles of the humerus, and its more horizontally oriented trochlear axis, the retroversion of the tibia head, platycnemia, etc., all of which are found in various frequencies in Indian skeletons. Without going into further detail regarding the nature and number of these factors within the compass of biologic action and reaction, it may be stated that primitive traits are likewise implicated with the concepts of massiveness and crudeness which on their part are dependent on weight, bone texture, and relief conditions. Doubtless of a primitive nature is also small body size which as such and from the ethnogenetic viewpoint is a criterion of more recent consideration. It is of frequent occurrence in the female among the American Indians who astonishes by her childlike appearance and her small-sized head. There was among the skulls of the North Pacific Coast as collected by the Jesup North Pacific Expedition that of a Yakima female with a cranial capacity of only 980 ccm. which, I believe, is the smallest on record.[2] Truly primitive morphologic traits are furthermore low foreheads, varying degrees of prognathy, the petrosa on a level with the surrounding parts of the cranial base, occipital flexure and torus, high orbits, the orygmocraspedotic condition of the lower nasal incisure, the high maxillaries generally in connection with shallow or absent canine fossae and shallow infrazygomatic incisures, and a host of other morphologically primitive traits, all of which occur in the Indian. As regards prognathy, for example, I have been able, in the Jesup report now in its last stages of printing, to establish the fact that the Mongoloids and this in reference particularly of the Indian of the North Pacific Coast, are more prognathous than the Mongol stock, and that torus occipitalis occurs there in 69.7 per cent., although in different degrees of development. Particularly the torus formation appears as much as a racial trait there as a truly phylogenetic feature. Primitive traits, as already intimated, are in the end reminiscences of ancestral conditions, and it is by their evaluation that, in addition to the manifestations of race mixture, the morphologic standard of the individual, group or race might be determined.

---

[1] It should be mentioned in this connection that Klaatsch's hypothesis of a west and east migratory current of pre-humanity in close affinity of either the pre-gorilloid or pre-orangoid stocks giving rise finally to the Neandertaloid and Aurignacian types was not meant to convey the idea of direct genetic derivation. It simply suggests the morphologic affinities between each of these two forms and should suggest nothing more nor less but what we are accustomed to understanding by the fairly generally accepted concept of a palaeoprimate at the root of the primate phylogenetic tree. This explanation was given me by Professor Klaatsch in frequent personal discussions which I had with him during the latter stage of his life.

From this rather broad survey of the field, and excepting the truly archaic forms of South America and perhaps Greenland, it must conclusively be stated that, in spite of a number of undeniably primitive characters in the anatomy of the American Indian, he represents, on the whole, a more refined variety of the recent species of man, not only in a general sense but also in his racial domain, the Mongoloid family of mankind.

MUSEUM OF THE AMERICAN INDIAN, HEYE FOUNDATION,
NEW YORK CITY.

---

[2] There are according to Hrdlička's statement about thirty crania in the collections of the U. S. National Museum with cranial capacities ranging from 910–1000 ccm.

NOTE ON SHOSHONI ANTHROPOMETRY

By Truman Michelson

IN the summer of 1927 I measured a number of Shoshoni Indians of Wind River, including a few of Lemhi. Among these were forty adult males. I report briefly on their cephalic index. I find the average to be 78.75 with a standard deviation of 2.93. On page 757 of the *American Anthropologist,* N. s., vol. 1, Professor Boas gives 79.5 (79.488 by my calculation from the table on p. 756) as the average of one hundred twenty-five adult male Shoshoneans.[1] From the data on the above-mentioned table I calculate the standard deviation to be 2.744. In this way it is possible to determine whether the two series are comparable. Since the difference of the averages (.738) is less than the error of difference (± .8458) it is clear that the difference of the averages is due to random sampling. It may be added that Professor Boas gives 79.5 as the average of Shoshonean women and gives the variation of the combined series, men and women, as 2.7. Now in the *Zeitschrift für Ethnologie,* 1895, pp. 391, 395, Professor Boas gives the cephalic index of one hundred twenty-three adult male Ute as 79.5, with a standard deviation of 2.9. This average agrees with the average given above for male Shoshoneans. I have made a calculation which shows that the difference in the dispersion is negligible, for the error is greater than the difference.

Among Boas' series of Shoshoneans are forty-three Shoshoni, but it is impossible to know from his article whether they are all males, or if of both sexes, what the proportion is. In any event the presence of such a large number of Shoshoni among his combined series would surely affect the result. We may therefore say (1) that the measurements of Bolton, Shaw (Professor Boas' observers), and myself are fully comparable; (2) the standard deviation of Shoshoneans is very low, and indicates great homogeneity; (3) since the measurements of Bolton and Shaw were taken in 1891 and 1892, and mine in 1927, the physical type has remained stable during this time.

Bureau of American Ethnology,
Washington, D. C.

---

[1] From pages 751 and 754 I should have thought 124 to be correct.

RICERCHE E RISULTATI INTORNO AGLI INDIGENI AMERICANI

Per Giuseppe Sergi

La causa principale che finora non ha fatto conoscere quali fossero stati i più antichi e primitivi abitanti dell'America, bisogna, io credo, ricercarla nei metodi antropologici adoperati, cioè il sistema craniometrico e antropometrico quasi metodo esclusivo nella ricerca e nell'osservazione dei caratteri antropologici, senza quella comparazione necessaria con altre genti di cui si conoscessero i caratteri al di fuori del Nuovo Mondo; e quando anche è stata fatta questa comparazione, questa è stata limitata alle genti dell'Asia settentrionale soltanto e per un concetto che ha pregiudicato le ricerche medesime, cioè che l'America sia stata popolata dall'Asia soltanto e per le vie di settentrione, quella del mare di Bering. Ma poichè alcuni studiosi si sono accorti delle differenze dei caratteri fra asiatici e americani del settentrione, per spiegare questo fatto sono ricorsi all'idea di mutamenti fisici degli Asiatici passati in America. L'incontro più inopportuno, perchè è più contrario a questa idea, è stato quello delle genti più settentrionali di America, gli Esquimesi, in confronto con i Mongoli e i Mongoloidi dell'Asia, che sono i più lontani da quelli per i loro caratteri antropologici. Per questo non rimaneva agli antropologi che l'espediente dei mutamenti dei Mongoli in Esquimesi, senza una giustificazione che possa confermare l'espediente; la biologia non può giustificare questi mutamenti.

Nè gli studiosi degli indigeni americani, la maggioranza almeno, che hanno trattato ed esaminato i materiali umani di varie regioni americane, si sono arrestati, qualche momento, davanti alla grande varietà che essi presentano, e che non possa spiegarsi come di variazioni di qualche unico tipo umano. Per mezzo della craniometria tutti gli indigeni sono ridotti a tre categorie, dolico, meso, brachicefali, come si può ridurre tutta l'umanità estinta e vivente; ma da qualche analisi che essi hanno fatto risulta che, malgrado le categorie craniometriche, trovasi una diversità, che non può essere spiegata da loro stessi.

Anche le misure antropometriche, benchè non possano scoprire le razze, avvertono della differenza raziale e della diversità di origine; ma non sono rilevate. Soltanto un ingannevole complesso di caratteri esterni mostrerebbe l'affinità con gli asiatici e quasi l'unità di origine di tutti gli indigeni americani. Dico ingannevole quello insieme di caratteri della pelle, dei capelli e dell'assenza di pelosità e di barba, perchè questi caratteri devono essere una formazione dell'abitato, e quello americano è caratteristico così che come fosse nulla la differenza nelle latitudini, ciò che non accade di trovare in altre regioni terrestri fuori di America.

La verità è quella che io ho rilevato, specialmente nel mio volume intorno agli indigeni americani, che l'antropologia si è cristallizzata nella cranio- e nella antropometria, e quindi è divenuta impotente a scoprire varietà o specie umane;

tutti gli antropologi sono come costretti a muoversi in queste strettezze e interpretare le cifre ancorchè enormemente moltiplicate, e non hanno quindi la visione chiara e netta di ciò che è una forma tipica umana; spesso, invece, per numerose comparazioni di misure e di calcoli perdono la visione reale, e non rimane loro che una astrazione soltanto.

L'antropologia quindi è ancora nella sua prima fase scientifica e non l'ha superata.

Non dico che la craniometria e l'antropometria non siano utili, ma sono tali principalmente per la statistica di una popolazione, per conoscere lo sviluppo nel'accrescimento, per controllare anche la determinazione delle forme, per scoprire le variazioni in una serie uniforme di individui e di crani umani; ma non saranno valevoli a scoprire e a determinare tipi umani e razze umane, come finora inutilmente sono state applicate. Broca si accontentava di venti crani per determinare una razza e ne faceva la media, come che quei venti crani fossero di uno stesso tipo. Il limitato valore di questi due metodi non è veduto meglio che nella annosa ricerca a scoprire chi erano gli indigeni americani, non mai identificati malgrado numerose osservazioni.

E' la morfologia che ha questo compito e principalmente la morfologia scheletrica per la quale sono evidenti i caratteri e non oscurati o nascosti dal tegumento e dalle sue appendici; inoltre è da aggiungere che lo scheletro conserva i caratteri definitivamente costituiti, mentre il tegumento nei suoi caratteri è una formazione che ha dipendenza dalla natura dell'abitato, la cui varia influenza è finora poco o affatto conosciuta.

Con questi criteri, che sono per me antichi e spesso manifestati nei miei vari lavori e applicati con successo, io ho intrapreso il difficile compito di ricercare quali fossero stati i primitivi abitanti d'America. Tali ricerche mi hanno confermato viepiù nei miei criteri per il successo che credo di avere ottenuto, successo importante in mezzo ad opinioni di antropologi senza effettive dimostrazioni d'affermazioni contrarie alla natura dei fatti.

Il metodo morfologico da me adoperato, è simile a quello dei paleontologi ed è lo zoologico nel significato comune e generale, cioè conosciuto e stabilito un tipo cranico umano vederne la distribuzione nel tempo e nei vari luoghi, dove sarebbe possibile scoprirlo. E così mi è avvenuto di stabilire tipi umani, dei quali altra volta io mi era accorto di trovarsi in America l'esistenza, tipi corrispondenti a rami umani che vivono in zone terrestri fra loro lontanissime, e dopo di ricercarne l'origine e la diffusione.

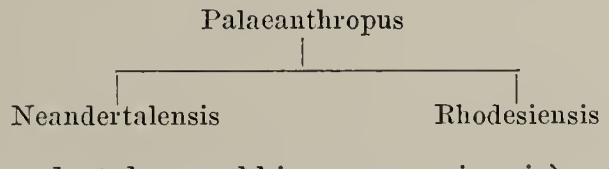
Ciò ho potuto fare per mezzo di alcuni caratteri che io chiamo differenziali, come si sogliono trovare anche in animali, per i quali questi si distinguono e possono classificarsi. Uno dei rami umani, che ha una larga distribuzione in America, mi ha offerto un carattere differenziale, e già da molto tempo, nella struttura cranica, non solo ma unito ad altri caratteri con i quali suole accompagnarsi. E' la cresta o eminenza frontosagittale, da me denominata lofo (λόφος), struttura che, malgrado sia stata descritta da alcuni e ben riconosciuta, non ha ricevuto la considerazione ed il significato che merita sia rilevato dall'antropologo, il quale specialmente dà valore alle misure e ai loro rapporti.

La struttura su detta, il lofo, che è stata per me il filo conduttore nel labirinto delle razze umane, è da considerarsi, per il suo significato differenziale, simile ad alcune strutture che trovansi negli animali e si considerano specifiche, come ad esempio: la proboscide nei proboscidei, le lamine varie nei loro denti molari, la forma dei piedi nei perissodattili e negli artiodattili, la gobba nei bovini di Africa; la forma e la grandezza dei corni nei bovini; il corno nei rinoceronti, e così via, che sarebbe lungo di enumerare tutti i caratteri, che sono un mezzo di distinzione negli animali e servono alla classificazione loro. Ora l'eminenza lofoide non si trova che nei Tasmano-australiani e nei Moriori del Pacifico e in gruppi americani, fuegini, patagoni, esquimesi e altri variamente mescolati nelle tribù varie americane, e in nessun altro gruppo o varietà umana, come io ho costatato e dimostrato da lungo tempo. Non v'è dubbio, quindi, che vi debba essere una affinità tra loro e una separazione di questi tutti da altre varietà umane, che non hanno questo carattere speciale.

Così ho stabilito due gruppi umani che ho denominato Lofocefali, gli oceanici e gli americani, i quali, gli uni e gli altri, hanno, oltre questa caratteristica struttura cefalica, anche altre strutture in comune, le quali tutte insieme fanno un grande tronco umano separato dagli altri, che hanno altri caratteri loro propri.

Tali fatti io aveva mostrato molti anni addietro, occupandomi di una sistemazione generale umana (1911) e della determinazione antropologica dei Tasmano-australiani (1912). Ma mi aveva imbarrazzato la connessione dei due gruppi lontani, l'oceanico e l'americano, che allora non capii che inesattamente. Ora la connessione è venuta come da sè stessa per la scoperta dello scheletro di Rhodesia nell'Africa centrale; quindi si può procedere da questo tipo umano fossile e caratteristico a quelli che ancora vivono nell'oceano Pacifico e in America.

Il cranio di Rhodesia ha caratteri communi con i crani dei Lofocefali oceanici e dei Lofocefali americani, come denomino per il carattere speciale i due grandi gruppi umani; ha un lofo sviluppatissimo insieme con quegli altri caratteri che si trovano nei Lofocefali. Ma è importante a dire che esso ha molti caratteri comuni col cranio di tipo neandertalense, ma se ne separa per l'eminenza lofoide che nel Neandertal manca e per la faccia più grande e la statura maggiore, per quanto finora si conosce. Quindi si può ammettere che essi, il tipo di Rhodesia e quello di Neandertal, rappresentano due rami di un tronco umano, che i Linneani forse considererebbero come due specie di un genere. Comunque sia, io do il nome di Palaeanthropus al tronco, come già diedi al Neandertal in origine, e così scrivo.



Sembra che il Neandertal non abbia successori e si è estinto definitivamente; non così il Rhodesiense, che si è estinto in Africa, dove è la sua origine, ma non altrove, dove cioè è migrato.[1]

Come farebbe un paleontologo e un zoologo, io trovo che i caratteri dello scheletro di Rhodesia si trovano nei Tasmaniani, Australiani, Moriori (Lofocefalo

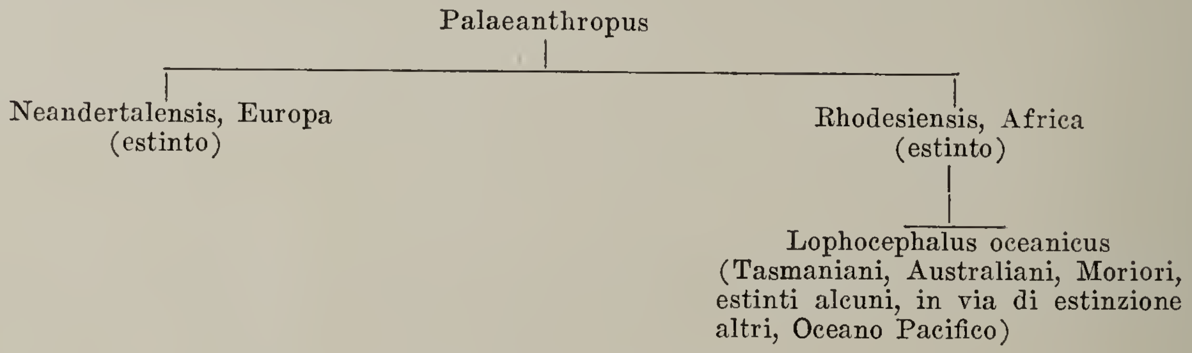
---

[1] Vedi, *La più antica umanità vivente.* Torino, 1930, Bocca editore. La mirabile ricostruzione di un arcaico tronco umano, i cui rami si distesero in Africa, Europa, America, Oceania.

Oceanico) specialmente nel cranio facciale; lofo, variamente sviluppato, frontorbitario sporgente in varia misura; cresta occipitale forte, rozze e pesanti strutture ossee specialmente nelle protuberanze, solco profondo nasofrontale, grande espansione alle apofisi orbitarie, larghezza anche grande ai malari e agli archi zigomatici, mascella grande in larghezza, ossa nasali spesso corti e piatti e collocati perpendicolarmente, ma non sempre, come vedesi nel cranio di Rhodesia, che ha i nasali prominenti; inoltre statura elevata in Australiani e Tasmaniani come nello scheletro rodesiano. Da ciò si ha un'evidenza chiara della stretta relazione fra tipo rodesiense e Lofocefali oceanici, Tasmano-australiani e Moriori.

In Tasmano-australiani l'assoluta maggioranza, se non tutti, è di dolicomorfi, come è dolicomorfo il cranio di Rhodesia; ma si trovano anche brachimorfi ai limiti della mesocefalia nei Moriori, senza che essi abbiano perduto nessun altro carattere comune ai dolicomorfi. Noi possiamo considerarli come variazioni naturali e primitive.

Allora possiamo ammettere con sicurezza come progenitore dei Lofocefali oceanici il tipo rappresentato dallo scheletro rhodesiano; e così se questo progenitore africano è estinto, come è estinto il ramo di Neandertal suo affine, i suoi discendenti esistono ancora, anch'essi però, in via di estinzione, come schematicamente segue.



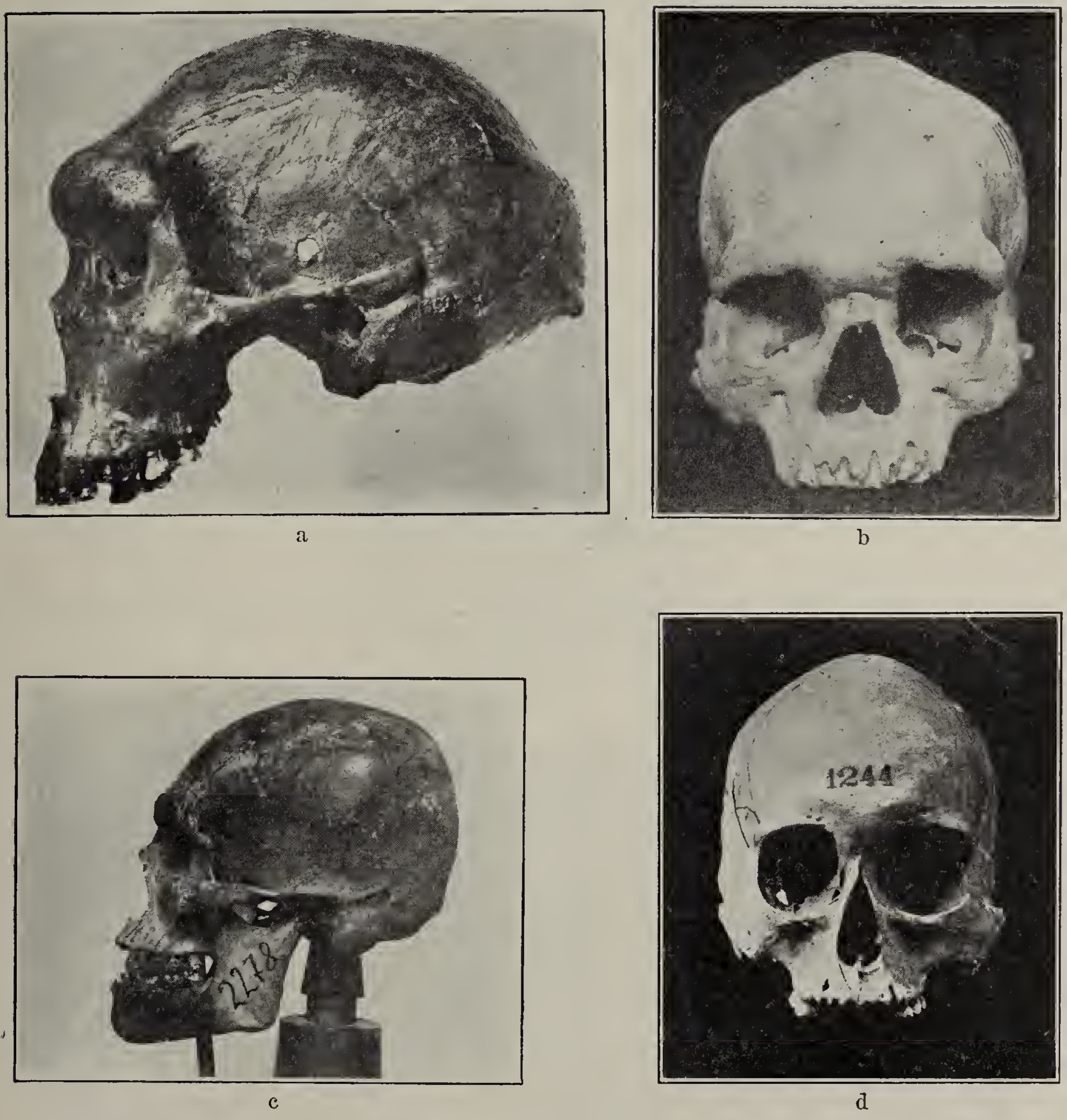
I caratteri tegumentari dei Lofocefali oceanici sono: pelle colore cioccolatto più o meno scura, capelli elicotrichi in Tasmaniani, in Australiani cimotrichi nella maggioranza, elicotrichi in minoranza, pelosità sviluppate, barbe egualmente. Si trovano altri caratteri che qui si trascurano.

L'antropologo, come un naturalista she si fonda sui caratteri scheletrici, deve affermare le relazioni di discendenza dei Lofocefali oceanici dal tipo o ramo rhodesiense del Paleantropo.

Vengo ora all'America, ma qui non è così semplice e facile la ricerca come nel Pacifico; io credo di avere in qualche modo chiariti i fatti.

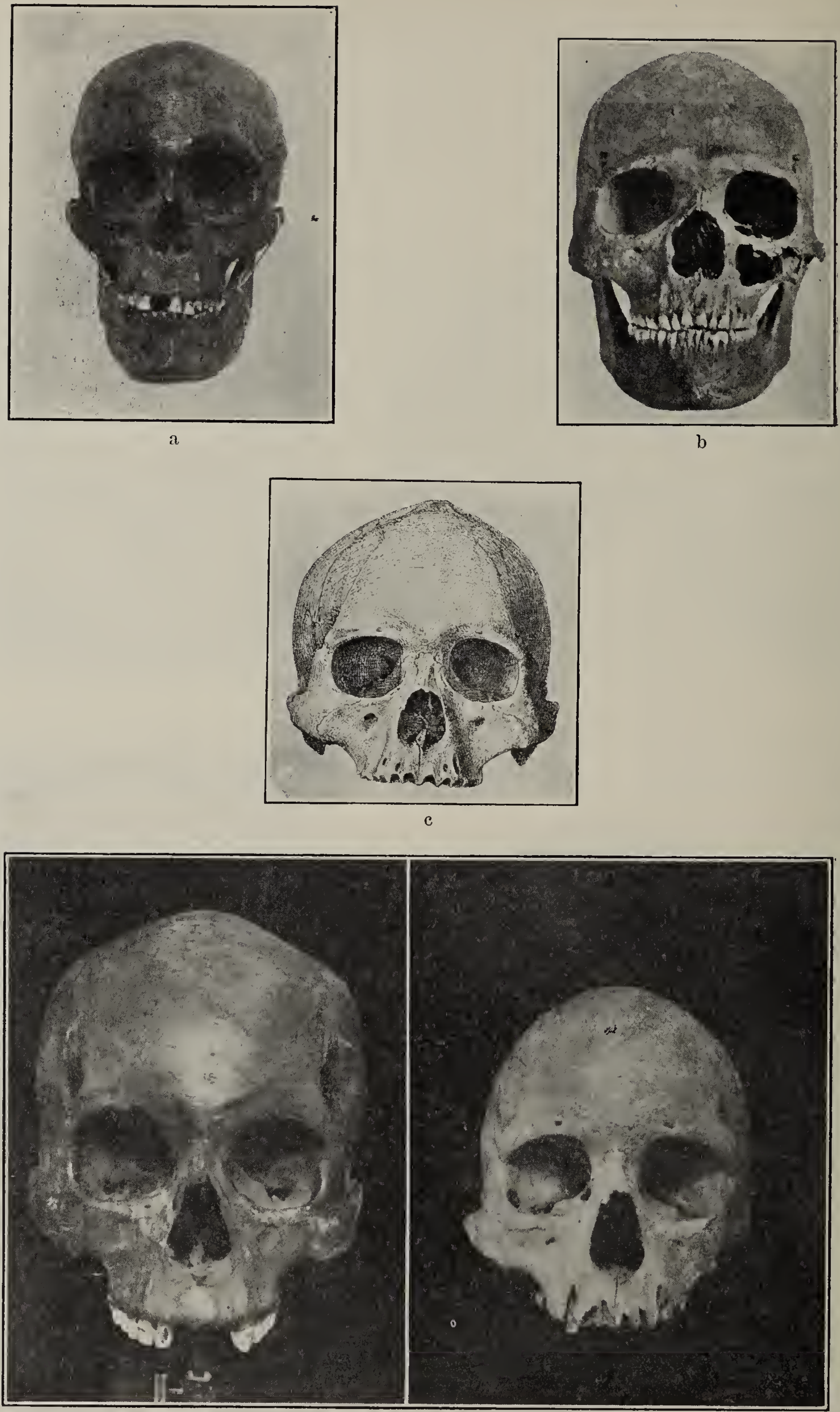
Primi a presentarsi sono due gruppi posti alle due estremità delle Americhe, i Fuegini e gli Esquimesi, perchè questi conservano ancora meno alterati i loro caratteri per la minore mescolanza con altra popolazione, così appariscono come razze pure piuttosto e per quanto è possibile. Ma i due gruppi non hanno identici caratteri, benchè ne abbiano molti comuni, per i quali apparisce l'affinità fra loro e l'affinità coi Lofocefali oceanici.

Gli Esquimesi hanno tutti l'eminenza lofoide caratteristica e varia nella forma, come anni addietro (1901) dimostrai. Quindi per questo solo carattere già dimostrerebbero di appartenere alla famiglia, il tronco già determinato; ma



a b c d

a, LOPHOCEPHALUS RHODESIENSIS (CRANIO DI BROKEN HILL, RHODESIA, BRITISH MUSEUM); b, LOPHOCEPHALUS OCEANICUS (AUSTRALIA, MUSEO ROMANO); c, LOPHOCEPHALUS OCEANICUS, VAR. BRACHYMORPHUS (AUSTRALIA, MUSEO ROMANO); LOPHOCEPHALUS AMERICANUS, VAR. ESQUIMOENSIS (SMITHSONIAN INSTITUTION)



a, LOPHOCEPHALUS AMERICANUS, VAR. FUEGENSIS (TIERRA DEL FUEGO, MUSEO ROMANO); b, LOPHOCEPHALUS AMERICANUS, VAR. TASMANOIDES (NORTH HADLEY, MASS., VERA KNIGHT); c, LOPHOCEPHALUS AMERICANUS, VAR. TASMANOIDES (PAIUTE, VIRCHOW); d, LOPHOCEPHALUS AMERICANUS, VAR. TASMANOIDES (COLOMBIA, MUSEO ROMANO); e, LOPHOCEPHALUS AMERICANUS, VAR. TASMANOIDES (COLLEZIONE SALESIANA)

non hanno quel fortissimo frontorbitario come trovasi spesso in Lofocefali oceanici, ma non sempre. Gli Esquimesi sono tutti senza eccezione dolicomorfi, perchè pochi hanno mesocefalia; l'ossatura è forte e pesante; la faccia è grande con grande sviluppo della regione mascellare, ma nasali e apertura piriforme sono stretti, anzi questa è strettissima, donde la grande leptorrinia. Così cranio e faccia esquimesi fanno di essi una variazione dei Lofocefali e ben definita nei suoi caratteri e non mai scambiabile con altra varietà del tipo o del tronco lofocefalico, meno ancora con altra varietà umana.

I Fuegini divergono dagli Esquimesi per la maggiore larghezza del cranio, sono in molti elementi prossimi alla brachimorfia; ma si può affermare che comprendono tutte le categorie craniche senza variare nel tipo, e per questo io altra volta ne avevo fatta una categoria col nome di Pecilocefali. Sono lofoidi, meno qualche raro esemplare, e il loro lofo ha la forma di losanga non molto elevato. L'ossatura è forte e pesante come nei crani tasmano-australiani, forte a protuberante il frontorbitario, così le creste tutte. La faccia è grande e larga ai malari, la mascella forte e così la mandibola; l'apertura nasale non è grande, ma è più larga di quella esquimese. Tutto il cranio con la regione facciale, malgrado la sua forma larga, ha più dell'esquimese, la fisonomia tasmaniana. I Fuegini quindi possono considerarsi come un'altra variazione del tronco lofocefalico e come una varietà distinta dall'esquimese.

Dopo queste due varietà così distinte fra loro e così facilmente determinabili, viene la difficoltà a scoprire nella grande massa degli altri indigeni le forme tipiche appartenenti al tronco lofocefalico molto diffuso in varie regioni e non così separate in gruppi come Esquimesi e Fuegini.

Io le ho trovate queste forme per mezzo dell'analisi diretta sui crani a mia disposizione nel Museo antropologico di Roma e sulle fotografie di varie parti d'America e degli autori che ne hanno trattato. Ho però veduto forme cefaliche che spesso si presentano nei loro caratteri similissime a quelle oceaniche, tasmaniane e australiane, e queste, per distinguerle da quelle esquimesi e fuegine, ho denominate Tasmanoidi, perchè ho creduto di chiamare Tasmanus il tipo oceanico dei Lofocefali, come quello che è più puro degli Australiani che nei caratteri esterni mostrano caratteri di ibridismo. E incomincio da un documento recentemente scoperto in America.

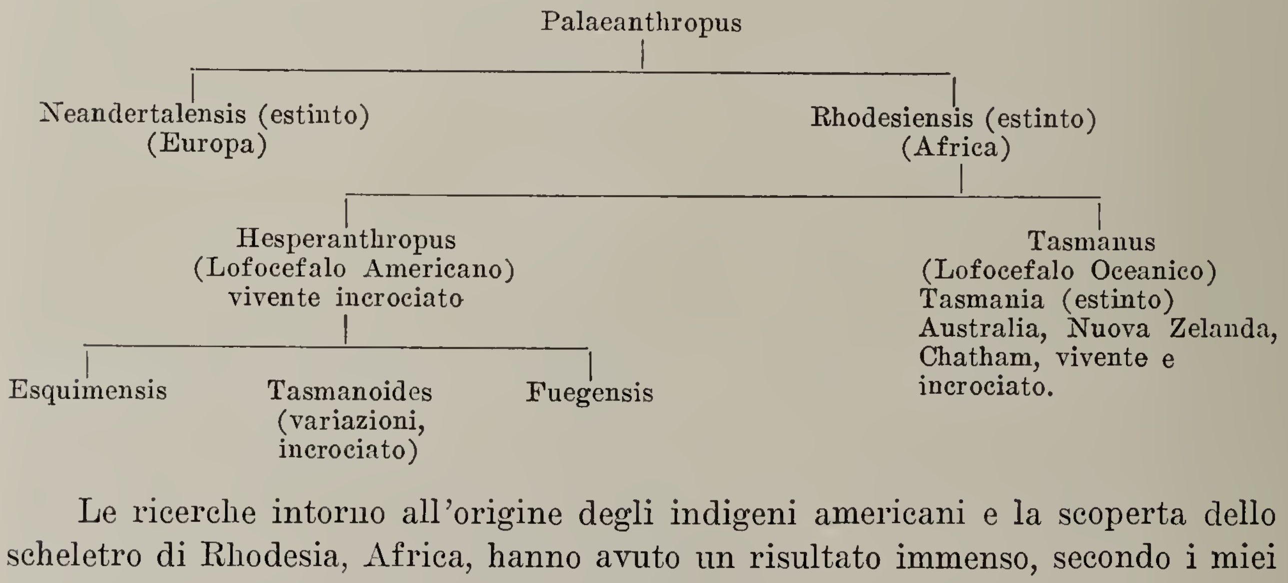
Un cranio che dagli esploratori americani di New York è stato riconosciuto come avente i caratteri australiani, è quello trovato a Punin presso Riobamba nell'Ecuador. Questo cranio che è a ritenersi quaternario, perchè trovato insieme nella stessa località con fossili di animali estinti e riconosciuti quaternari per l'epoca, è tipico per i suoi caratteri e si scambierebbe per un cranio tasmaniano o australiano. Questo io chiamo Tasmanoide soltanto perchè si è trovato in America, e con i tasmaniani ha tutti i caratteri comuni; e così chiamerò tutti gli altri simili e che si separano come variazioni dagli Esquimesi e Fuegini.

Io ho trovato il tipo tasmanoide nell'isola di Terranova (Newfoundland), nel New England, nella valle del Mississippì, del Missouri, in California, benchè non sempre in uno stato puro, ma qualche volta con segni evidenti di ibridismo; l'ho trovato, ma più raramente, in mezzo a crani messicani, nel Perù, e molto comune verso la foce del Paranà, nel suo grande Delta, a contatto della nazione patagonica, se non è una sua parte in origine; qui gli elementi che io distinguo come tasmanoidi sono allo stato puro e presentano tutti i caratteri tasmano-australiani nello scheletro. Sono questi studiati bene dal Dr. Torres; non sono deformati, come non sono deformati i veri Patagoni e i Fuegini di tipo Tasmanoide.

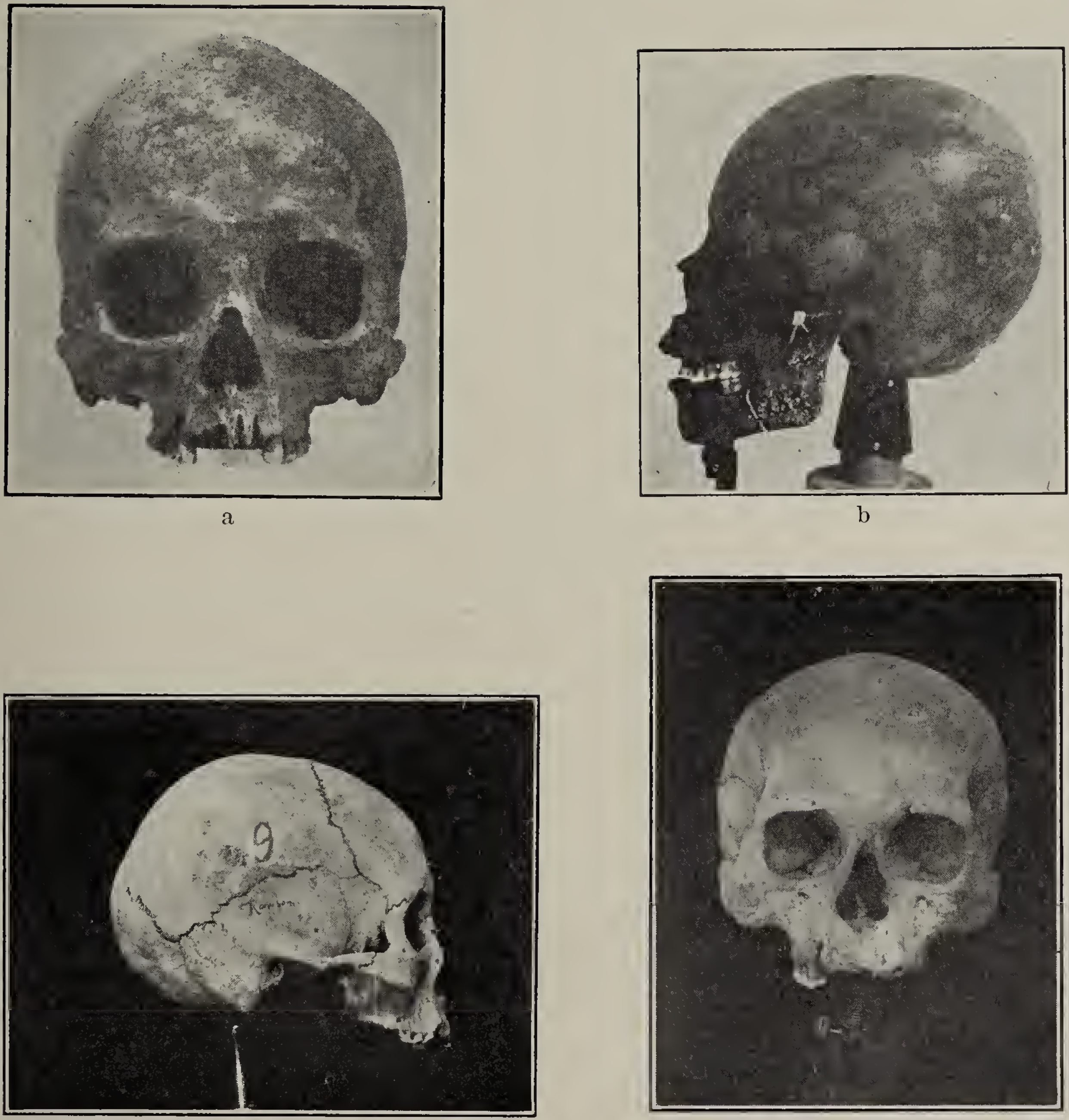
Così l'area occupata dai Tasmanoidi, cui si possono aggiungere i Fuegini come a quelli simili e più vicini come varietà lofocefalica, non è continua da nord a sud nelle Americhe, ma è interrotta, ad occidente del Mississippi, nell'America centrale con mescolanze soltanto del tipo stesso, nelle valli Andine e a nord dell'Argentina, mentre dall'Uruguay e dal Paraguay verso il sud, all'estremità australe, predomina il tipo tasmanoide più o meno ibrido. L'altra area fuori della su denominata dei tasmanoidi è stata occupata da un altro ramo umano, anche arcaico, come dirò.

Però l'esame particolare dei documenti ha rivelato nei tasmonoidi una variazione loro propria, cioè una forma brachimorfa nei crani di Florida dei mounds St. John's River, esaminati da H. Allen, nei crani di Louisiana e di Arkansas secondo lo studio di Hrdlička e in altri ancora. Tale variazione non è un fatto nuovo nei Lofocefali oceanici, perchè si riscontra nei Moriori delle isole di Chatham spiccatamente, e anche si ha un esempio nel tipo di Neandertal, come appare nei frammenti di Krapina.

Il fatto è che i Lofocefali americani presentano maggiori variazioni degli oceanici, come risulta dalle nostre osservazioni. Noi non possiamo dire se tali variazioni siano originarie o effetto posteriore all'emigrazione in America, e per ora ci basta di costatarle. Le variazioni maggiori sono espresse dividendo in tre categorie i Lofocefali americani e dando a loro un nome comune che le comprende, che è quello di Hesperanthropus, già da me introdotto nella nomenclature antropologica americana, mentre con Tasmanus si intende includere tutti i Lofocefali oceanici. Così avremo la seguente classificazione che ordina e chiarisce tutto il nostro concetto.


Palaeanthropus
Neandertalensis (estinto)
(Europa)
Rhodesiensis (estinto)
(Africa)
Hesperanthropus
(Lofocefalo Americano)
vivente incrociato
Tasmanus
(Lofocefalo Oceanico)
Tasmania (estinto)
Australia, Nuova Zelanda,
Chatham, vivente e
incrociato.
Esquimensis
Tasmanoides
(variazioni,
incrociato)
Fuegensis

Le ricerche intorno all'origine degli indigeni americani e la scoperta dello scheletro di Rhodesia, Africa, hanno avuto un risultato immenso, secondo i miei studi e i miei metodi antropologici, la ricostruzione completa di un tronco umano grandissimo per estensione e arcaico; e nel tempo medesimo la fine di tutte le ipotesi sul tipo di Neandertal, che non è una specie separata del così detto Homo Sapiens, come si faceva finora, nè una fase dell'evoluzione che porta ad Homo Sapiens, ma un ramo laterale del Rhodesiensis, che aveva migrato per l'Europa e



a b

c d

a, LOPHOCEPHALUS AMERICANUS TASMANOIDES, VAR. BRACHYMORPHUS (ARKANSAS, HRDLIČKA); b, SPHENOIDES BREVIS, TIPO NEGRITICO PERU (MUSEO ROMANO); c, STENOTERO, CRANIO DI FORME MELANESIANE (PATAGONIA, COLLEZIONE SALESIANA); d, CRANIO MONGOLOIDE (PERU, MUSEO ROMANO)

l'Asia occidentale, per quel che finora si conosce.[2] L'altro risultato è che questo ramo umano prodotto in Africa e migrato oltre che nel Pacifico anche in America, in epoca, senza dubbio antichissima, quaternaria certamente, e ha occupato grande parte dell'immenso territorio, variando probabilmente in esso e così da formare non soltanto variazioni superficiali, ma forse specie differenti.

Se i caratteri esterni tegumentari dei Lofocefali americani sono differenti da quelli dei Lofocefali oceanici, questo richiede una spiegazione, ma bisogna avvertire che noi ignoriamo quali caratteri tegumentari avessero i progenitori rhodesiani, e quindi è ragionevole supporre che gli americani come gli oceanici fossero una formazione dell'abitato loro proprio e anche differente.

Intorno all'antichità d'intervento in America di questo ramo umano non potrà esservi dubbio alcuno, perchè la formazione dei suoi caratteri tegumentari, differenti da quelli dei Lofocefali oceanici, deve essere un prodotto in un periodo lunghissimo di tempo, e perchè tanta popolazione aumentasse e occupasse immense regioni del continente, ciò che non avrebbe potuto avvenire in tempo breve. Se il Dr. Hrdlička trova nei residui umani, ammessi come quaternari, caratteri simili a quelli degli indigeni viventi, non per questo motivo quelli debbono giudicarsi moderni. Gl'Indiani viventi di ogni tipo sono i discendenti degli antichi abitanti, e devono naturalmente portare inalterati i caratteri dei loro antenati. Tutte le dimonstrazioni da lui fatte per dichiarare recenti i crani e altre ossa umane considerate plistoceniche, mostrano all'evidenza quel che ora io affermo. Tanto i supposti crani antichi quanto i recenti, che fra loro non sono differenti, mostrano di appartenere al ramo umano che io chiamo Lofocefali. Del resto, recentemente l'antichità americana è dimonstrata per altri fatti scoperti in Oklahoma, New Mexico, Texas e altrove.

Ciò vale per quel ramo umano che finora ho rivelato col nome di Hesperanthropus; ma ancora un altro v'è da mostrare di eguale importanza e di antichità.

Le mie ricerche antiche e recenti intorno agli indigeni americani mi hanno rivelato la presenza di un altro ramo umano in America e in regioni differenti da quelle dove abbiamo trovato i Lofocefali con le loro variazioni, benchè spesso si trovino mescolanze con questi e con altri di differente origine. Questo ramo umano, come già ho dimostrato altrove, non è meno importante dell'altro, anche per le condizioni di sviluppo civile.

A scoprire questo secondo ramo umano mi sono principalmente servito dello scheletro e par le ragioni già precedentemente addotte, e sopratutto dello scheletro cefalico, come comporta il metodo. Ed ecco come io ho descritto altrove questo tipo di cranio che tanto si separa dal Lofocefalo e da ogni altro che craniometricamente si confonderebbe, ed è stato realmente confuso.

Il cranio è piccolo di volume, è corto così che raramente supera in lunghezza 170 mm., di regola è meno, mentre di larghezza massima ha da 140 mm. e al di là. La larghezza massima è molto all'indietro, e da essa il cranio si assottiglia ed ha nel contorno la forma di un cuneo corto, cioè è cuneiforme, Sphenoides Brevis, secondo la mia nomenclatura, che fissa come tipo il cranio. Il quale, quindi, ha l'occipitale quasi piano o poco convesso, non mai sporgente, inoltre non ha strutture ossee pesanti ed eccessive, come nel Lofocefalo, ma relativamente leggiere, senza sporgenze al frontorbitario, nè alla cresta occipitale; la fronte è piuttosto bassa ma non inclinata all'indietro se non raramente. La faccia è piccola di superficie, bassa e poco larga ai malari e agli archi zigomatici, quindi egualmente bassa la regione nasale con ossa nasali ordinariamente corti e non sempre piatti e verticalmente collocati, l'apertura piriforme è larga per la breve altezza nasale, donde spesso la platirrinia; prognatismo non esiste se non sia una profatnia per allungamento sfenoalveolare. La statura è bassa, il corpo tutto è piuttosto esile ma robusto e ben costituito.

---

[2] Cfr. *op. cit., La più antica umanità vivente.*

Questi caratteri insieme riuniti io ho trovato in quella regione dell'America settentrionale che comprende principalmente l'Arizona, dove sono stati scoperti i Pueblos, e donde l'esplorazione Hemenway ha riportato un gran numero di scheletri esaminati dal Matthews; nel Messico, nell'Yucatan, dove Gann esplorò i mounds dei Maya; nell'America centrale, nella Colombia, nel Perù e nelle valli peruviane che discendono nell'Amazonia, nel Tucuman, nella regione dei Calchaqui o Diaguiti, regione settentrionale della repubblica Argentina. Inoltre ho ricavato da studi di Starr e di Hrdlička e da altri sui viventi del Messico e del Perù altri dati, benchè imperfetti e incompleti, che confermano quanto ho rilevato per mezzo dei residui scheletrici, cioè che quelle popolazioni americane avevano ed hanno nei loro residui discendenti dalle precolumbiane, caratteri che sono simili se non identici a quelli di popolazioni dette comunemente Negritos nelle isole Filippine, le quali sono dello stesso ceppo di altre trovate nelle isole malesi, e nella Nuova Guinea, e a Sumatra e Giava e nelle penisola di Malacca con altri nomi e nelle Andamane e nell'estremità meridionale della penisola indiana; cranio tipo Sphenoides Brevis in tutti e simili caratteri in tutto lo scheletro. Come è noto queste popolazioni sono denominate anche Pigmei per la statura, differiscono dalle popolazioni americane con caratteri cefalici di Sphenoides Brevis per i caratteri tegumentari, allo stesso modo come i Lofocefali oceanici differiscono dai Lofocefali americani, e naturalmente per le stesse cause.

Questi americani deformavano la testa, contrariamente ai Lofocefali; ma eccezionalmente si trovano crani non deformati. Siccome la deformazione è occipitale, si trova diminuita la lunghezza e aumentata la larghezza. La deformazione per quanto forte sia, fa scoprire la forma genuina, come io ho mostrato nei miei studi; inoltre la presenza di forme intatte confermano le mie facili induzioni.

Questo secondo ramo umano così largamente diffuso, deve essere antico come l'altro, e la sua origine deve anche ricercarsi in Africa, perchè l'Asia finora non ha dato nessun indizio di tale tipo umano; e quei pigmei africani, oggi ben conosciuti, devono essere i loro fratelli carnali.

Allora possiamo affermare che in epoca arcaica l'America sia stata popolata da migrazioni dei due rami umani, egualmente arcaici e quindi nell'abitato orientale e in quello occidentale. Ma io non vorrei denominare Pigmei quelli con forma cefalica Sphenoides Brevis, benchè di bassa statura; loro vorrei dare il nome secondo la forma del cranio come ho fatto per i Lofocefali e concordemente al metodo. Così li chiamerei

Brachisfenoidocefali Orientali, i vari Negriti,
Brachisfenoidocefali Occidentali, gli Americani,

cioè con cranio (testa) cuneiforme corto. I caratteri che separano questi due rami sono i tegumentari, dovuti a nuova formazione nell'abitato.

Oltre questi due rami umani che devono essere venuti in America i primi, fra altri elementi intervenuti, io ho trovato in una collezione salesiana di Patagonia, anche altre forme cefaliche proprie della Melanesia; altre simili aveva scoperto il Dr. Paul Rivet in California. Io credo che questi elementi debbono essere intervenuti in tempi relativamente recenti perchè sono estranei al tipo patagone, e anche ai californiani; in California e in Patagonia erano frequenti i Tasmanoidi.

Infine si può constatare la presenza di elementi asiatici, non soltanto con caratteri mongolici, ma ancora con altri caratteri che non sono mongolici; e ne ho dato esempi nel mio lavoro ricordato.

Io devo anche avvertire che altre differenti forme craniche ho osservato nelle collezioni a mia disposizione, che non si possono attribuire a tipi già determinati da me, non tasmanoidi, non di forme negritiche, nè asiatiche, nè melanesiane. Su queste non posso nulla di determinato affermare, e avrei bisogno di fare nuove osservazioni e in ricche collezioni, che non sono a mia disposizione.

Questi risultati che io credo sicuri, reali, hanno un valore così importante che nuovo e meritano considerazione da coloro che si occupano delle varie culture trovate per la scoperta di Colombo. Non v'è per me dubbio alcuno che queste culture precolombiane sono tutte indigene, e se qualche elemento è venuto da fuori, è superficiale, secondario e tardivo. Ciò è anche sostenuto da altri fatti; Tasmano-australiani hanno ancora una cultura iniziale, molto primitiva e stazionaria; la stessa cosa si può affermare dei vari gruppi sparsi del ceppo negritico, mentre la civiltà dei Maya può attribuirsi alla varietà affine ai Negritos, come attestano i mounds del Yucatan e i crani ivi trovati di tipo negritico e deformati come quelli di rio Salado nell'Arizona e dei Cliff-Dwellers, e del Perù e dei Calchaqui.

Del ramo tasmanoide gl'indigeni di New England avevano una cultura, ma i Seri erano nella cultura eolitica ancora; Fuegini, Patagoni avevano e hanno ancora, i superstiti, una cultura primitiva; nè molto elevata è quella degli Esquimesi.

Quindi un nuovo problema nasce, come quegli esseri umani in oriente sono rimasti in uno stato iniziale di cultura, e quelli occidentali o americani hanno potuto, alcuni gruppi, innalzarsi a culture elevate.[3]

ROME, ITALY.

---

[3] Cfr. per le dimostrazioni complete il mio volume *Gli Indigeni Americani, Ricerche Antropologiche,* Roma, 1928.

SU ALCUNI CARATTERI DEL CRANIO FACIALE DEGLI ANTICHI PERUVIANI

Per Lidio Cipriani

Lo studio delle forme del cranio cerebrale per determinare le affinità raziali è quasi, se non totalmente sterile di resultati quando trattasi delle antiche popolazioni indigene dell'America presso le quali la deformazione artificiale era estesamente praticata. L'inconveniente è tanto sentito che si è ricorso più volte e fin'anche recentemente,[1] a mezzi che permettano di comparare quelle forme con le altre proprie delle popolazioni a forma cranica normale, ma può asserirsi che i risultati sono rimasti finora assai scarsi, nè vi è fondata speranza che su quella via possano farsi dei progressi in futuro.

Consapevole di questo stato di cose ho creduto non inopportuno di passare dall'esame del cranio cerebrale a quello della faccia; e ciò ho fatto il più minutamente possibile sopra i trecentoventi crani che costituiscono il nucleo peruviano nelle collezioni antropologiche del Museo Nazionale di Antropologia e Etnologia della R. Università di Firenze. I crani in questione provengono da località varie, quali i distretti di Lima (necropoli di Ancon e huache varie), Puno e Cuzco, i dintorni del Lago Titicaca, ecc., e presentano, si può dire, tutti i tipi di deformazione stati in uso nel continente americano. Ben pochi sono quelli che non appariscono deformati e che costituiscono quelli dei preziosi pezzi di confronto per la comprensione dei fenomeni a cui verosimilmente hanno sottostato i crani deformati.

Un primo fenomeno da rilevarsi è relativo all'azione deformante subita dalle ossa della faccia come riflesso non cercato delle pressioni sopportate dalle ossa della scatola cranica. Sembra a prima vista che la faccia, sulla quale nessuna operazione è stata praticata, non debba risentire alcun effetto di ciò che vien fatto sul cranio, e che essa conservi intatti, quindi, i caratteri del tipo. Ma non è affatto così. Già un esame anche superficiale rende evidente la cosa. Si rifletta che la pressione deformante è fatta subire al bambino in tenerissima età, e stando a quanto alcuni popoli praticano anche oggi, l'applicazione delle bende o tavolette deformatrici comincia poco dopo la nascita e continua fino a quando il bambino comincia a camminare e parlare.[2] Non è credibile che diversamente sia stato per gli antichi Peruviani, e sempre si sarà dovuto agire sulla tenera, plastica ossatura, in via di rapido accrescimento del bambino, fino a poco oltre il primo anno di vita. Ma la deformazione non localizza i suoi effetti ai soli punti dell' osso che direttamente comprime. Qualcosa necessariamente trasmettesi anche alle ossa circonvicine in via di crescenza, le quali devono così adattare il loro sviluppo alle influenze del momento.

---

[1] Shapiro, H. L., Note on a Correction Formula for Artificially Deformed Crania, *Proceedings, National Academy of Sciences,* vol. 13, no. 8, Washington, 1927, p. 632.

[2] Layard, J. W., Degree-taking Rites in Southwest Bay, Malekula, *Journal of the Royal Anthropological Institute of Great Britain and Ireland,* vol. 58, 1928, p. 220.

Prendiamo il caso della pressione esercitata a scopo deformante sul frontale di un fanciullo nel suo primo anno di vita. La plastica natura delle ossa con cui il frontale confina—e nel caso nostro restringiamoci a considerare quelle sole della faccia—e il loro giornaliero, incessante modificarsi in virtù dell'accrescimento, non possono che favorire una non localizzazione degli effetti di quella pressione. Note leggi della fisica fanno comprendere come e secondo quali direzioni, la transmissione della forza applicata sul frontale per quanto mascherata dallo speciale mezzo in cui si applica, possa effettuarsi. Le conseguenze del fatto sono varie, e fra esse si ha: l'irrobustimento dei malari; alcune alterazioni nei margini delle orbite; varie modificazioni si può dire in tutto il mascellare, ma specialmente su tutto il decorso dei suoi due rami ascendenti, con l'effetto, per lo meno, di alterare l'indice nasale.

Nei crani in cui la deformazione ha prodotto una forte asimmetria, è più facile che negli altri, rimasti relativamente simmetrici, riconoscere l'influsso che la pressione esercitata sulla scatola cranica ha avuto sulle ossa della faccia. Tale asimmetria accompagna e talvolta esagera quella del rimanente del cranio di cui così si rivela come una conseguenza. Della collezione fiorentina cito i crani seguenti, che portano i numeri di catalogo: 2287 (di fanciullo ancora in processo di deformazione, e quindi preziosissimo ad osservarsi) ; 2312, 2313, 2321, 4009, 3995, 2425, 2332, 2324, 3059, 3033, 3027, 3020, ecc., i quali presentano il fatto qui citato. Esso è evidentemente generato dalla suaccennata trasmissione di forze anomale attraverso le parti scheletriche in via di sviluppo. In ogni caso è da ritenersi che specialmente i grandi diametri del cranio siano rimasti alterati. Si noti a questo proposito che un autore americano,[3] ritenendo invece invariabile la distanza basion-nasion, nonostante ogni deformazione, l' ha posta come punto di partenza di una sua speciale formula correttiva delle varie dimensioni dei crani deformati.

Una manifestazione notevole, dipendente probabilmente dalle condizioni anomale di sviluppo imposte anche alle ossa della faccia per le ragioni dette, si ha nella eccezionale persistenza della sutura sotto-orbitale. Già qualcosa di inconsueto si ha nella successione dei processi di sinostosi di tutte le suture del cranio deformato. Per la sutura sotto-orbitale il fatto si risolve col dare a questa anomalia una frequenza tale, nei crani deformati, da mettere i gruppi umani con tale carattere alla testa di tutti gli altri. Che questa frequenza sia in diretta relazione colla deformazione e non un carattere di razza, lo dimostra il suo identico ripetersi nei crani deformati di tutti i paesi, e per esempio in una bella serie della Crimea, posseduta dallo stesso museo antropologico fiorentino.

Si può intuire come il fenomeno deve prodursi. La sutura sotto-orbitale si salda ordinariamente entro il primo anno di vita, ma può essere chiusa nel feto a termine. La sua assenza nei crani di neonati sta fra l'otto e il nove percento. Tale percentuale coincide perfettamente con quella della serie peruviana de me studiata, nella quale raggiunge l' 8.75 percento.

L'impressionante ravvicinamento spinge a supporre che, ove tale sutura persiste nell'adulto, è perchè essa era presente alla nascita e fu poi impedita di chiudersi per le pratiche della deformazione. Viceversa, l'assenza significherebbe sinostosi prenatale di essa.

---

[3] Shapiro, *op. cit.*

La pressione esercitata sulla scatola cranica e riflettentesi sulle ossa della faccia, pone inevitabilmente i due margini della sotto-orbitale in rapporti sempre variati, sì da vietarne in tempo debito la saldatura. In particolare dal frontale, attraverso la parte nasale da un lato, dal processo zigomatico dall'altra, provengono due pressioni che trasmesse indipendentemente, e l'una contro l'altra lungo il margine inferiore dell'orbita, vanno a portare i loro effetti su quella sutura. Una forte opposizione al suo saldarsi, in concordanza a quelle pressioni, devono poi darla le ripetute remozioni delle bende o tavolette deformanti durante il periodo di applicazione, e il loro ricollocamento, che mai avverrà in maniera identica e con la stessa esatta direzione e intensità di pressione. Stando a quanto anche oggi è praticato da alcuni popoli primitivi, tali remozioni avvengono almeno due volte al giorno, nel periodo in cui maggiore è la plasticità della testa del bambino.[4] Con tale continuo alterarsi di influenze, la sinostosi della sutura sotto-orbitale non può essere che impedita, e si devono ottenere addiritura dei continui, per quanto infinitesimali scorrimenti, in un senso e nell'altro delle due porzioni di osso a contatto. Il capriccioso decorso della sutura stessa, in confronto al suo aspetto nei crani normali, e certe sovrapposizioni e ingrossamenti dei suoi margini, in molti casi, corroborano l'ipotesi.

Comunque le cose avvengano, la serie fiorentina peruviana dà duecentonovantatre crani con sutura sotto-orbitale sui trecento venti che la compongono. Stando al Le Double,[5] nei crani non europei la sutura sotto-orbitale è stata finora osservata in un Boscimano, un Australiano, un indigeno delle isole Sandwich, un indigeno dell'isola Chatham e un Neo-Zelandese. Troppo poco, veramente, perchè la sua straordinaria frequenza nei crani peruviani, e aggiungo in quelli deformati di altri popoli, non debba esser messa in rilievo.

Come si propaga lungo i margini delle orbite, a più forte ragione la pressione deformatrice applicata sul frontale si propaga lungo quei due pilastri che sono i rami ascendenti del mascellare. Essi, col frontale, vengono a formare come un sistema trilita. Onde meglio sostenere la pressione che vien dall'alto, i due pilastri acquistano la tendenza a raddrizzarsi e irrobustirsi. Talora anche può osservarsi un vero e proprio affondamento della parte basale di essi entro il mascellare. In ogni caso la forma assunta si rivela come la migliore per sopportare l'anomala pressione sotto cui l'osso è stato costretto a svilupparsi. In nessun'altra regione del cranio, come in questa, che dà ricetto alla cavità nasale, l'asimmetria prodotto dalla condotta deformazione fornisce elementi per comprendere come le forze applicate sulla scatola cranica agiscono sulle ossa della faccia. In particolare per quelle che delimitano l'apertura piriforme deve riconoscersi che in nessun cranio esse hanno conservato le proporzioni che sarebbero state loro caratteristiche, col resultato di alterare sempre quelle dimensioni che in Antropologia si usano per ottenere l'indice nasale. Nemmeno questo, quindi, che è uno dei migliori caratteri distintivi delle razze, può, al pari dell'indice cefalico, essere utilmente usato nei crani deformati. Altrettanto potrebbe dimostrarsi che si deve dire per tutti gli altri indici.

---

[4] Layard, *op. cit.*

[5] Le Double, A. F., *Traité des Variations des Os de la Face de l'Homme*, Paris, 1906, p. 181.

In conseguenza di queste stesse deformazioni che interessano la regione nasale, è da ritenersi pure inefficace l'applicazione di qualsiasi metodo geometrico inteso a una obbiettiva valutazione dei caratteri morfologici delle varie parti ossee che concorrono a formare l'apertura piriforme.

Tutto sommato, allora, per i crani deformati abbiamo in primo luogo l'impossibilità di classificarli basandosi sulle forme del cranio cerebrale; in secondo luogo la necessità di escludere anche l'uso degli indici della faccia perchè alterati. Deve così perdersi ogni speranza di arrivare a comprendere qualcosa sul miscuglio raziale degli antichi Peruviani?

Senza pretendere di poter dire tutto il possibile su tal problema che è già complicato anche possedendo gli elementi più atti per la sua soluzione, come lo dimostra l'incertezza che si ha per tutti i popoli, anche se posti nelle migliori condizioni per essere studiati, pure è da confidare nell'efficacia dello sfruttamento di certi caratteri morfologici propri della faccia e in particolare dell'apertura piriforme, i quali nonostante ogni alterazione del cranio conservano abbastanza per poter essere osservati e valutati come se fossero in condizioni normali.

L'apertura piriforme non è stata forse studiata a sufficenza, e non si sono ancora riconosciute in essa certe caratteristiche che all'infuori di ogni misura e di ogni indice servono egregiamente, e meglio di ognuno dei metodi fin qui applicati, a seguire i suoi differenti modi di presentarsi nelle diverse razze umane. Mi ispiro, per dir questo a i resultati, purtroppo ancora inediti, di una ampia ricerca condotta dalla dott. Claudia Massari su materiale abbondantissimo di vari musei. Stando a questi resultati, devono distinguersi nel genere umano due tipi nasali profondamente diversi fra loro, l'australoide e il negroide, e altri tipi, semplici modificazioni o miscuglii in vari gradi dei due precedenti, quali il polinesioide, l'europeo, il mongoloide, ecc.

Accenno brevemente a quali sono, secondo la dott. Massari, i caratteri distintivi di ognuno dei tipi che essa ha distinto e descritto con grande minuziosità. Per maggiori dettagli, rimando al lavoro originale che è in via di pubblicazione.

Australoide.—Spina sempre presente, volta in basso ed in avanti. Nasali constituenti una minima parte della distanza interorbitale e massima invece del limite superiore dell'apertura piriforme. Grande infossamento della radice del naso. I margini laterali dell'apertura piriforme arrivano sul piano delle fosse nasali, (che si prolunga anteriormente in un clivo), e si spingono in avanti e di lato alle creste spinali fin quasi a circondarle e senza mai fondersi con esse. Queste formano fra loro un angolo sempre minore di novanta gradi. La forma si accompagna a: breve distanza spino-alveolare superiore; breve distanza interorbitale; prognatismo sottonasale, che colloca il prolungamento dei margini laterali dell'apertura piriforme sopra un piano diverso da quello della superiore di essi.

Negroide.—Spina sempre presente, non sempre però distinta. Nasali che costituiscono massima parte della distanza interorbitale, e piccola parte del limite superiore dell'apertura piriforme. Lieve infossamento della radice del naso, la quale trovasi spesso sullo stesso piano della parte medio-anteriore del frontale. I margini laterali dell'apertura piriforme, raggiunto il piano delle fosse nasali, (che non si protende in avanti), si volgono medialmente per raggiungere la spina, mantenendosi sempre su di uno stesso piano. Le creste spinali qualche volta si fondono con questi prolungamenti inferiori dei margini laterali; ove restano distinte; esse formano fra loro un angolo che varia fra novanta e cento ottanta gradi.

La forma si accompagna a: forte distanza spino-alveolare superiore; forte distanza interorbitale; prognatismo o totale o sotto-nasale.

Polinesioide.—Rassomiglia molto alla forma australoide. La principale diversità con questa risiede nel fatto di non avere il prolungamento dei margini laterali dell'apertura piriforme decorso sopra un piano diverso da quello della parte superiore; e questo per la minor frequenza del prognatismo sotto-nasale. La radice del naso può non essere infossata e tendere a rassomigliare quella descritta per la forma negroide.

Europea.—Può considerarsi un polinesioide raffinato.

Mongoloide.—Spina sempre presente e ben distinta. Nasali appiattiti, che costituiscono la massima parte della distanza interorbitale, e formanti fra loro un angolo grandissimo, fino all'angolo piatto. I margini laterali dell'apertura piriforme e le creste spinali si presentano all'incirca come nella forma negroide.

Nei trecento-otto crani peruviani della collezione fiorentina queste forme nasali risultarono distribuite come nello specchio seguente:

Allegato No. 1

Nello specchio seguente sono esposti per esteso i dati che si riferiscono non solo alla forma nasale, considerata in ciascun individuo, ma anche al tipo di deformazione cranica ad essa associata. Vi sono pure comprese le dimensioni e l'indice dell'apertura piriforme, benchè questo, per le ragioni già dette, sia da considerarsi destituito del significato che siamo soliti riconoscergli. Inoltre per ogni cranio è indicata la presenza, o meno, della sutura sotto-orbitale. Tutto ciò insieme alle indicazioni di provenienza e sesso.

Allegato No. 2

Se osserviamo i dati riuniti, specialmente per ciò che concerne l'apertura piriforme, possono essere rilevati sommariamente alcuni fatti. In primo luogo va notato l'ineguale distribuirsi delle forme nasali nella costa e nell'interno. La forma australoide, ad esempio, che sul complesso degli uomini della serie dà il quaranta-sette percento sulla costa, dà appena il 6.4 percento nell'interno. Nelle donne le medesime percentuali sono rispettivamente 18.6 e 6.5. Anche la forma polinesioide ha il medesimo forte sbalzo dalla costa all'interno. La forma mongoloide, invece, e ciò ha forse un importante significato, si distribuisce ovunque con una qualche uniformità. Circa alla forma negroide, che manca quasi nell'interno, va rilevato che essa è straordinariamente più frequente nelle donne che negli uomini, e che segna a sua volta il massimo di frequenza sulla costa.

Data la novità, meriterebbe esaminare assai meglio i medesimi dati e confrontarli con quelli rintracciabili in altre serie di crani peruviani. Intanto, se anzichè cercare le percentuali sul complesso degli uomini o delle donne della serie, noi le cerchiamo separatamente sugli uomini o sulle donne della costa o dell'interno, altri fatti più interessanti vengono con molta nettezza in luce. In tal modo indagate, le varie forme nasali dimostrano di comportarsi come segue:—

Un fatto che risalta subito è l'andamento grandemente diverso delle percentuali nei due sessi per tutte le forme nasali. Anche all'infuori del prevalere già notato della forma negroide nella donna, e questo tanto nell'interno che nella costa, ogni forma ha nei due sessi un suo comportamento tipico che la distacca decisamente dalle altre. Difficile sarà dire quali possano essere le vere cause del fenomeno; nè in questo lavoro, che vuol essere una semplice esposizione

	Uomini No.	Uomini %	Donne No.	Donne %
Forma australoide				
sulla costa	87 su 161	54	23 su 86	26.7
nell'interno	12 su 24	50	8 su 37	21.6
Forma polinesioide				
sulla costa	36 su 161	22.3	9 su 86	10.4
nell'interno	3 su 24	12.5	5 su 37	13.5
Forma mongoloide				
sulla costa	13 su 161	8.07	13 su 86	15.1
nell'interno	5 su 24	20.8	12 su 37	32.4
Forma negroide				
sulla costa	25 su 161	15.5	41 su 86	47.6
nell'interno	4 su 24	16.6	12 su 37	32.4

di fatti, io pretendo indagarle; ma esse sono da rintracciarsi probabilmente a mezzo delle leggi che regolano il mendelismo. Trattandosi di una popolazione in cui il miscuglio è indubitabile, i fatti che vi si possono rilevare, e nel caso nostro specialmente quelli relativi alla morfologia nasale, sempre serviranno per comprenderne la composizione. Queste differenze fra la costa e l'interno, e fra i due sessi, hanno certamente il loro significato, che in gran parte dipenderà dalle diverse proporzioni in cui il miscuglio avvenne.

Nello specchio dei dati individuali facile cosa sarebbe il rilevare come le forme nasali si associano agli indici nasali. Dico subito però che l'esame non fornisce alcunchè di caratteristico, chè ogni forma presenta in proporzioni poco variabili tutti gli indici della serie, per le sopravvenute alterazioni delle ossa nasali; non val quindi la pena di intrattenercisi. Altrettanto è da ripetersi, e per la medesima ragione, per l'indice faciale. Questo anzi si è dimostrato così capricciosamente variabile, ed ancor più dell'indice nasale, da giudicare inutile di esporne anche solo i dati. Si ha un qualcosa di simile a ciò che si ottiene per le dimensioni e gli indici del cranio cerebrale. Nè meglio serve alcun altro dei dati ottenibili dalla faccia, cosicchè può ritenersi come certo che veramente soltanto dalla morfologia nasale sono da attendersi i migliori resultati nelle serie di crani deformati peruviani. E la conclusione può applicarsi, ritengo, benchè non l'abbia precisamente ricercata, per qualunque popolo in cui fu in uso la medesima deformazione.

Un fatto invece su cui non oso pronunziarmi decisamente prima di aver potuto aumentare convenientemente con altre serie i dati che posseggo circa la serie fiorentina, è relativo al rapporto, che in essa però si delinea, il quale sembra esistere, almeno fino ad un certo punto, fra la morfologia nasale e il tipo di deformazione cranica. Mi limito qui an accennare al problema e lo lascio senza ulteriore svolgimento, con la convinzione però che da esso si potrà trarre qualche cosa di molto interessante.

Riepilogando, mi sembra giustificato affermare che fra i caratteri della faccia dei crani deformati, soltanto quelli della regione nasale mostrano di dare adito a qualche deduzione. Si essa sia sicura, o no, non pretendo fin da ora di deciderlo; trovo però sintomatico, come prova della grande probabilità di giustezza dei resultati raggiunti, che una concordante indicazione sia stata ottenuta recentemente per altre vie da vari studiosi delle popolazioni dell'America pre-colombiana.

ALLEGATO NO. 1

Numero delle osservazioni	Percento della serie	Costa				Interno				Forma nasale
		♂	Percento del complesso ♂ della serie	♀	Percento del complesso ♀ della serie	♂	Percento del complesso ♂ della serie	♀	Percento del complesso ♀ della serie	
130	42.2	87	47	23	18.6	12	6.4	8	6.5	Australoide
53	17.2	36	19.4	9	7.3	3	1.6	5	4	Polinesioide
43	13.9	13	7	13	10.5	5	2.7	12	9.7	Mongoloide
82	26.6	25	13.5	41	33.3	4	2.1	12	9.7	Negroide
308		**161**		**86**		**24**		**37**		Totali

ALLEGATO NO. 2

Nº d'ordine	Nº di catalogo	Località	Sesso	Altezza nasale	Larghezza nasale	Indice nasale	Forma nasale	Sutura sottor-bitale	Tipo di deformazione
1	2255	Ancon	♂	47	20	42.5	A	+	f.o.ob.
2	2254	”	♂	55	22	40	P	+	f.o.er.
3	2253	”	♀	48	22	45.8	N	+	f.o.er.
4	2252	”	♀	48	21.5	44.7	N	+	f.o.er.
5	2250	”	♂	53	22	42.4	A	+	f.o.ob.
6	2251	”	♂	48	22	45.8	P	+	f.o.ob.
7	1799	”	♂	51	26	50.9	M	+	f.o.ob.
8	1798	”	♂	50	22	45	P	+	f.o.ob.
9	2265	”	♂	48	23	47.9	P	+	f.o.ob.
10	2264	”	♂	50	23	46	N	+	f.o.er.
11	2263	”	♂	45	23.5	52	N	+	f.o.ob.
12	2258	”	♂	45	20	44.4	P	+	f.o.ob.
13	2262	”	♂	50	24	48	P	+	f.o.er.
14	2261	”	♂	54	22.5	41.6	A	+	f.o.ob.
15	2257	”	♂	50	24	48	P	+	f.o.ob.
16	2256	”	♀	50	23	46	N	+	f.o.er.
17	2276	”	♂	51	23	45.1	P	+	f.o.ob.
18	2275	”	♂	54	25	46.3	P	+	f.o.er.
19	2274	”	♀	53	24	45.2	N	+	f.o.er.
20	2269	”	♂	45	22	48.8	P	+	f.o.ob.
21	2272	”	♂	51	23	45.1	P	+	f.o.ob.
22	2268	”	♂	50	26	52	M	+	f.o.ob.
23	2267	”	♂	45	23	51.1	A	+	f.o.er.
24	2266	”	♂	48	25	52	A	+	f.o.er.
25	2277	”	♂	53	25	47.1	A	+	f.o.ob.
26	2278	”	♀	46	21	45.6	P	+	f.o.ob.
27	2279	”	♀	48	21	43.7	P	+	non deformato
28	2281	”	♀	50	25	50	N	+	f.o.ob.
29	2282	”	♂	55	20	36.3	P	+	f.o.ob.
30	2283	”	♂	52	24	46.1	A	+	f.o.er.
31	2284	”	♂	53	24	45.2	P	+	f.o.ob.
32	2285	”	♀	50	25	50	N	+	f.o.er.
33	2286	”	♂	50	23	46	N	+	f.o.er.
34	2287	”	♂	40	21	52.5	P	+	f.o.er.
35	2288	”	♂	49	21	42.8	M	+	non deformato
36	2280	”	♀	44	21	47.7	M	+	f.o.er.
37	2290	”	♂	52	23	44.2	P	+	f.o.ob.
38	2291	”	♂	56	25	44.6	A	+	f.o.ob.
39	2292	”	♂	36	19	52.7	A	+	f.o.ob.
40	2203	”	♀	47	23	48.9	P	+	f.o.ob.
41	2294	”	♂	57	22	38.6	P	+	f.o.er.
42	2303	”	♀	49	24	48.9	N	–	f.o.er.

Allegato No. 2 (*segue*)

Nº d'ordine	Nº di catalogo	Località	Sesso	Altezza nasale	Larghezza nasale	Indice nasale	Forma nasale	Sutura sottorbitale	Tipo di deformazione
43	2302	Ancon	♀	50	23	46	M	+	f.o.er.
44	2301	”	♂	56	20	35.7	P	+	f.o.ob.
45	2295	”	♂	53	21	39.6	A	+	f.o.ob.
46	2296	”	♂	55	22	40	A	+	f.o.er.
47	2297	”	♂	51	25	49	A	+	f.o.er.
48	2298	”	♂	55	23	42.7	A	–	f.o.ob.
49	2299	”	♂	42	19	45.2	M	+	f.o.er.
50	2300	”	♂	51	21	41	A	+	f.o.er.
51	2304	”	♂	48	23	48.8	A	+	f.o.ob.
52	2305	”	♀	45	22	48.8	N	+	non deformato
53	2307	”	♂	53	20	37.7	A	+	f.o.ob.
54	2308	”	♂	50	18	36	A	+	f.o.er.
55	2309	”	♂	38	17	44.7	A	+	f.o.ob.
56	2311	”	♂	48	18	37.5	A	+	f.o.er.
57	2312	”	♀	45	19	42.2	A	+	f.o.ob.
58	2313	”	♀	48	21	43.7	A	+	f.o.ob.
59	2323	”	♀	38	17	45.9	A	+	f.o.ob.
60	2322	”	♀	53	25	47.1	M	+	f.o.ob.
61	2321	”	♀	35	18	51.4	N	+	f.o.ob.
62	2310	”	♂	56	22	39.2	M	+	f.o.ob.
63	2318	”	♀	47	23	48.9	N	–	non deformato
64	2317	”	♀	49	23	46.9	N	+	f.o.ob.
65	2316	”	♀	50	22	44	A	+	f.o.ob.
66	2315	”	♀	43	19	44.1	A	+	f.o.ob.
67	2314	”	♀	47	22	46.8	N	+	f.o.ob.
68	4019	”	♀	43	21	48.8	N	+	f.o.er.
69	4018	”	♂	55	26	47.2	A	+	f.o.er.
70	4017	”	♀	41	21	51.2	N	+	f.o.ob.
71	4016	”	♂	50	20	40	A	+	f.o.ob.
72	4015	”	♂	52	26	50	N	+	f.o.er.
73	4013	”	♂	48	25	47	N	+	f.o.ob.
74	4007	”	♂	54	25	46.3	N	+	f.o.ob.
75	4008	”	♀	52	23	44.2	A	+	f.o.er.
76	4009	”	♀	47	25	53.1	M	+	f.o.ob.
77	4010	”	♀	49	26	53	M	+	f.o.er.
78	2452	”	♂	53	21	39.6	A	+	f.o.ob.
79	4012	”	♂	53	22	41.5	A	+	f.o.er.
80	4001	”	♀	42	23	54.7	N	–	f.o.ob.
81	4002	”	♂	54	23	42.5	M	+	f.o.ob.
82	4004	”	♂	51	25	49.0	P	+	f.o.ob.
83	4005	”	♀	43	22	51.1	N	+	f.o.er.

ALLEGATO NO. 2 (*segue*)

Nº d'ordine	Nº di catalogo	Località	Sesso	Altezza nasale	Larghezza nasale	Indice nasale	Forma nasale	Sutura sottor-bitale	Tipo di deformazione
84	4006	Ancon	♂	50	25	50	A	+	f.o.ob.
85	3995	,,	♂	38	19	50	N	+	f.o.er.
86	3997	,,	♂	46	21	45.6	P	+	f.o.er.
87	3998	,,	♂	46	23	50	M	+	f.o.ob.
88	3999	,,	♂	52	22	42.2	A	+	f.o.ob.
89	4000	,,	♂	54	24	44.4	A	+	non deformato
90	2448	,,	♂	47	25	53.1	N	+	f.o.ob.
91	2449	,,	♂	49	23	46.9	M	–	f.o.er.
92	2450	,,	♀	42	22	52.3	A	+	f.o.ob.
93	2453	,,	♀	47	21	44.6	P	+	f.o.ob.
94	3988	,,	♂	48	23	47.9	N	–	non deformato
95	3990	,,	♂	54	22	41.6	M	+	f.o.ob.
96	3992	,,	♂	45	27	60	N	+	non deformato
97	2338	,,	♂	53	22	41.5	N	+	non deformato
98	2339	,,	♂	49	25	51	N	+	non deformato
99	2445	,,	♀	46	21	45.6	A	+	non deformato
100	2446	,,	♂	46	25	54.3	A	+	f.o.ob.
101	2447	,,	♂	50	19	38	P	+	f.o.ob.
102	2344	,,	♂	......	......	......	A	+	in pezzi
103	2329	,,	♂	44	22	50	A	+	non deformato
104	2327	,,	♂	35	16	45.7	A	+	f.o.ob.
105	2326	,,	♂	49	27	45.1	A	+	non deformato
106	2328	,,	♂	57	22	38.6	A	+	f.o.er.
107	2336	,,	♂	50	16	32	P	–	non deformato
108	2324	,,	♂	54	23	42.5	A	+	f.o.er.
109	2337	,,	♂	41	19	46.3	A	–	f.o.ob.
110	2340	,,	♂	40	17	43.5	A		f.o.ob.
111	2333	,,	♂	52	21	40.3	A		f.o.er.
112	2332	,,	♀	49	24	48.9	N		f.o.ob.
113	2331	,,	♂	49	22	44.9	A		f.o.ob.
114	4020	,,	♀	47	19	40.4	A		non deformato
115	4021	,,	♂	51	21	41.1	P		f.o.er.
116	4022	,,	♂	50	24	48	A		non deformato
117	4023	,,	♂	50	27	54	A		f.o.ob.
118	4024	,,	♂	46	21	45.6	A		f.o.ob.
119	4026	,,	♀	50	19	38	P		non deformato
120	4027	,,	♂	50	26	52	A		f.o.er.
121	4028	,,	♂	51	23	45.1	A		f.o.ob.
122	4029	,,	♂	51	20	39.2	A		f.o.er.

ALLEGATO No. 2 (*segue*)

Nº d'ordine	Nº di catalogo	Località	Sesso	Altezza nasale	Larghezza nasale	Indice nasale	Forma nasale	Sutura sottor-bitale	Tipo di deformazione
123	4030	Ancon	♀	50	21	42	N		f.o.er.
124	4031	,,	♂	52	25	48	A		f.o.er.
125	4032	,,	♀	42	22	52.3	N		non deformato
126	4033	,,	♂	43	18	41.8	N		f.o.ob.
127	4070	,,	♀	46	24	52.1	M		f.o.er.
128	4052	,,	♀	44	21	47.7	N		non deformato
129	4105	,,	♀	50	23	46	N		non deformato
130	1800	,,	♂	56	20	35.7	A		non deformato
131	3992	,,	♂	49	27	55.1	N		f.o.ob.
132	4025	,,	♂	50	23	46	P		f.o.er.
133	2320	,,	♂	46	19	41.3	A		f.o.ob.
134	4094	,,	♂	52	27	51.9	A		f.o.ob.
135	2319	,,	♂	53	23	43.4	A		f.o.ob.
136	4011	,,	♀	49	22	44.9	A		f.o.ob.
137	1826	,,	♀	43	25	58.1	N		f.o.ob.
138	2325	,,	♀	44	17	38.6	A		f.o.ob.
139	4080	,,	♀	44	18	40.9	P		f.o.er.
140	4061	,,	♂	47	25	53.1	A		f.o.ob.
141	4079	,,	♀	50	23	46	N		guasto
142	2270	,,	♀	45	23	51.1	N		non deformato
143	4708	,,	♀	40	18	45	A		f.o.er.
144	4074	,,	♂	......	......	......	A		f.o.ob.
145	1797	,,	♂	50	23	46	N		f.o.ob.
146	1796	,,	♂	49	22	44.9	A		f.o.er.
147	2259	,,	♀	50	23	46	A		f.o.ob.
148	2289	,,	♂	53	24	45.2	A		f.o.ob.
149	4093	,,	♂	54	25	46.3	N		f.o.er.
150	1795	Lima	♀	49	22	44.9	N	-	f.o.er.
151	4097	,,	♀	47	23	48.9	N		non deformato
152	4095	,,	♀	45	26	57.7	N		non deformato
153	4089	,,	♀	50	21	42	M		f.o.ob.
154	4088	,,	♂	52	24	46.1	N		f.o.er.
155	4087	,,	♂	41	20	48.7	A		non deformato
156	4086	,,	♂	44	25	56.8	N		non deformato
157	4085	,,	♀	48	21	43.7	M		non deformato
158	4044	,,	♂	49	24	48.9	N		f.o.ob.
159	4083	,,	♂	55	23	41.8	A		f.o.er.
160	4082	,,	♀	47	21	44.6	A		f.o.ob.
161	4081	,,	♂	50	23	46	A		f.o.ob.
162	4078	,,	♀	43	24	55.8	N		f.o.ob.
163	4077	,,	♀	53	21	39.6	A		f.o.ob.

Allegato No. 2 (*segue*)

N° d'ordine	N° di catalogo	Località	Sesso	Altezza nasale	Larghezza nasale	Indice nasale	Forma nasale	Sutura sottor-bitale	Tipo di deformazione
164	4076	Lima	♀	46	23	50	M		non deformato
165	4075	,,	♀	......	......	50	M		in pezzi
166	4073	,,	♂	51	23	45.1	A		f.o.ob.
167	4072	,,	♀	52	22	42.3	M		non deformato
168	4068	,,	♀	48	23	47.9	N		f.o.ob.
169	4069	,,	♀	50	24	48	A		non deformato
170	4071	,,	♂	50	23	46	A		f.o.ob.
171	4062	,,	♂	50	22	44	A		f.o.ob.
172	4063	,,	♂	51	22	43.1	A		f.o.ob.
173	4064	,,	♂	51	24	47	A		f.o.ob.
174	4066	,,	♀	48	23	47.9	M		f.o.ob.
175	4058	,,	♂	51	23	45.1	A		f.o.ob.
176	4059	,,	♂	50	21	42	A		incompleto
177	4027	,,	♀	49	22	44.9	N		f.o.ob.
178	4056	,,	♂	47	22	46.8	A		non deformato
179	4055	,,	♂	47	24	51	M		f.o.ob.
180	4053	,,	♂	41	19	46.3	A		f.o.ob.
181	4049	,,	♀	43	21	48.8	M		f.o.er.
182	4047	,,	♀	35	18	51.4	N		f.o.er.
183	4048	,,	♂	48	25	52	A		f.o.er.
184	4044	,,	♂	55	21	38.1	A		f.o.er.
185	4055	,,	♂	45	22	48.8	M		f.o.ob.
186	4046	,,	♂	53	23	43.4	A		f.o.ob.
187	4043	,,	♀	45	25	55.5	N		non deformato
188	4042	,,	♂	49	19	38.7	A		non deformato
189	4039	,,	♀	45	22	48.8	A		f.o.ob.
190	4040	,,	♀	47	23	48.9	A		f.o.ob.
191	4041	,,	♀	53	23	43.4	N		f.o.er.
192	4036	,,	♂	49	23	46.9	P		f.o.er.
193	4037	,,	♂	53	27	50.9	A		non deformato
194	4038	,,	♀	42	23	54.7	N		f.o.er.
195	4035	,,	♂	50	22	44	P		f.o.ob.
196	4034	,,	♂	49	21	42.8	A		non deformato
197	4716	,,	♂	......	......	......	A		f.o.ob.
198	3004	,,	♀	45	21	46.6	N		non deformato
199	2451	,,	♂	52	27	51.9	N		f.o.er.
200	4074	,,	♂	53	27	50.9	A		f.o.ob.
201	1807	,,	♂	49	24	48.9	N		f.o.er.
202	1820	Costa	♂	48	23	47.9	A	+	non deformato
203	1821	,,	♂	51	23	45.1	M	–	non deformato

ALLEGATO No. 2 (*segue*)

Nº d'ordine	Nº di catalogo	Località	Sesso	Altezza nasale	Larghezza nasale	Indice nasale	Forma nasale	Sutura sottor-bitale	Tipo di deformazione
204	1823	Costa	♂	47	23	48.9	A	–	non deformato
205	1822	,,	♀	46	24	52.1	N	–	f.o.ob.
206	1824	,,	♂	52	22	42.3	A	+	f.o.er.
207	1825	,,	♀	38	19	50	A	+	f.o.er.
208	1827	,,	♂	50	23	46	P	–	f.o.er.
209	1819	,,	♀	50	21	42	A	+	f.o.er.
210	1818	,,	♂	53	23	43.4	A	–	f.o.er.
211	1816	,,	♂	54	21	38.8	P	+	f.o.er.
212	1817	,,	♂	54	22	40	A	–	non deformato
213	1815	,,	♂	54	24	44.4	N	+	f.o.er.
214	1814	,,	♂	50	23	46	M	–	non deformato
215	1813	,,	♂	48	25	52	P	–	f.o.ob.
216	1812	,,	♂	46	22	47.8	A	+	f.o.er.
217	1811	,,	♂	51	23	45.1	A	–	non deformato
218	1810	,,	♂	54	25	46.3	P	+	f.o.er.
219	1809	,,	♂	46	21	45.6	A	+	non deformato
220	1808	,,	♂	41	17	41.4	A	+	f.o.ob.
221	1806	,,	♂	51	26	50.9	A	+	non deformato
222	1804	,,	♂	48	25	52.0	A	+	f.o.ob.
223	1805	,,	♀	52	24	46.1	P	+	f.o.er.
224	1802	,,	♂	52	22	44.2	A	+	f.o.er.
225	158	,,	♀	49	23	46.9	N	+	f.o.ob.
226	157	,,	♂	55	20	36.3	P	+	f.o.ob.
227	3066	,,	♀	49	21	42.9	A		f.o.ob.
228	3062	,,	♀	47	20	42.5	P		non deformato
229	3059	,,	♀	52	24	46.1	A		non deformato
230	3033	,,	♂	53	20	37.7	A		f.o.er.
231	3032	,,	♂	50	23	46	A		f.o.ob.
232	3027	,,	♂	50	25	50	P		f.o.ob.
233	3019	,,	♀	46	23	50	A		non deformato
234	3020	,,	♂	53	24	35.2	P		f.o.er.
235	3021	,,	♀	55	25	45.4	N		f.o.ob.
236	3025	,,	♂	48	24	50	A		f.o.er.
237	3023	,,	♀	41	22	53.6	N		non deformato
238	2341	,,	♀	58	22	37.9	P		non deformato
239	3096	,,	♀	46	16	34.7	P		f.o.er.
240	3097	,,	♀	49	24	48.9	N		non deformato
241	3093	,,	♂	54	26	48.1	N		non deformato
242	3092	,,	♂	55	20	36.3	A		f.o.ob.

ALLEGATO NO. 2 (*segue*)

Nº d'ordine	Nº di catalogo	Località	Sesso	Altezza nasale	Larghezza nasale	Indice nasale	Forma nasale	Sutura sottor-bitale	Tipo di deformazione
243	3070	Costa	♀	43	21	48.8	N		f.o.ob.
244	3069	,,	♂	69	24	48.9	P		f.o.ob.
245	3068	,,	♂	47	22	46.8	P		non deformato
246	3067	,,	♂	50	19	38	P		f.o.ob.
247	4014	Tacna	♀	33	16	48.4	M		circolare
248	4713	,,	♂	49	23	46.9	A		non deformato
249	3987	,,	♀	38	21	55.2	M		circolare
250	3065	Antopacha	♂	50	23	46	A		circolare
251	1650	Cajamarca	♂	49	21	42.8	A		non deformato
252	3029	Abanoay	♀	54	26	48.1	M		circolare
253	3109	Cuzco	♀	50	21	42	A		non deformato
254	3106	,,	♂	55	22	40	A		circolare
255	3043	,,	♂	52	21	40.3	P		circolare
256	3038	,,	♂	39	19	48.7	A		circolare
257	3100	,,	♂	50	25	50	N		circolare
258	3098	,,	♀	38	22	57.8	N		circolare
259	2998	,,	♂	53	23	43.4	P		f.o.er.
260	2999	,,	♀	47	23	48.9	N		non deformato
261	3000	,,	♂	49	27	55.1	A		f.o.ob.
262	3002	,,	♀	47	30	63.8	M		circolare
263	3107	,,	♀	47	22	46.8	N		non deformato
264	3108	,,	♂	44	23	52.2	A		non deformato
265	3099	,,	♀	45	21	46.6	N		circolare
266	3101	,,	♀	47	27	57.4	N		non deformato
267	3102	,,	♀	44	22	50	M		circolare
268	3103	,,	♂	53	26	49	A		non deformato
269	3104	,,	♂	48	23	47.9	A		circolare
270	3105	,,	♂	50	24	48	A		circolare
271	3046	,,	♀	45	24	53.3	N		non deformato
272	3045	,,	♀	47	25	53.1	N		f.o.er.
273	3042	,,	♂	52	28	53.8	N		circolare
274	3044	,,	♀	47	22	46.8	P		f.o.er.
275	3039	,,	♂	51	23	45.1	P		circolare
276	3041	,,	♀	56	23	41	P		circolare
277	3036	,,	♂	......	......	......	M		circolare
278	3028	,,	♂	50	26	52	N		circolare
279	3094	,,	♀	48	20	41.6	M		circolare
280	3095	,,	♀	48	24	50	A		non deformato
281	3053	,,	♀	48	21	43.7	M		non deformato

ALLEGATO NO. 2 (*segue*)

Nº d'ordine	Nº di catalogo	Località	Sesso	Altezza nasale	Larghezza nasale	Indice nasale	Forma nasale	Sutura sottor-bitale	Tipo di deformazione
282	3081	Cuzco	♀	51	27	52.9	N		circolare
283	3051	,,	♂	48	25	52	M		circolare
284	3050	,,	♀	51	25	49	A		non deformato
285	3040	,,	♀	50	22	44	A		circolare
286	3047	,,	♂	53	29	54.7	N		circolare
287	3048	,,	♂	52	27	51.9	N		f.o.ob.
288	3113	,,	♀	50	24	48	M		circolare
289	3030	,,	♀	51	......	......	P		circolare
290	3072	,,	♀	45	21	46.6	N		circolare
291	3024	Lago Titicaca	♀	49	26	53	M		f.o.ob.
292	3112	Ollantay Tambo	♂	50	24	48	A		circolare
293	3057	,,	♀	45	24	53.3	M		circolare
294	3060	,,	♀	50	27	54	M		non deformato
295	3052	,,	♀	45	22	48.8	P		circolare
296	3056	,,	♂	43	24	55.8	M		circolare
297	3934	Interno	♀	52	24	46.1	P		circolare
298	3035	,,	♀	53	24	45.2	A		circolare
299	3931	,,	♀	37	18	48.6	N		f.o.ob.
300	2342	,,	♀	49	22	44.9	A		f.o.ob.
301	4711	,,	♂	40	20	50	A		f.o.ob.
302	3055	,,	♂	53	26	49	A		non deformato
303	3991	,,	♀	45	23	51.1	M		non deformato
304	3681	,,	♀	46	25	54.3	N		f.o.er.
305	3064	,,	♀	52	25	48	A		non deformato
306	3054	,,	♂	54	26	48.1	M		non deformato
307	3040	,,	♂	52	27	51.9	N		f.o.er.
308	151	,,	♀	33	20	60.6	N		non deformato

MUSEO NAZIONALE DI ANTROPOLOGIA E ETNOLOGIA,
FIRENZE, ITALIA.

CONTRIBUTION TO THE ANTHROPOLOGY OF NORTHEAST ASIATIC TRIBES

By Boris Vishnevsky

ANTHROPOLOGICAL investigations of the tribes known as Palaeoasiatics, inhabiting the extreme northeast of Asia, and of representatives of the Tungus-Manchurian group, are of the greatest interest, not only to Russian anthropologists, but also to those American investigators who are studying the problem of connection between the aborigines of America and the tribes of the Asiatic continent.

However, up to now such investigations have met with considerable difficulty. Doctor Slunin, a member of Professor Bogdanovich's expedition to Okhotsk-Kamchatka which was undertaken to investigate the natural history of this region, had no opportunity to make any anthropological observations on the Koryak. He found this impossible because, as he states:—

> "The Koryaks are too ignorant and superstitious and are opposed to any measuring whatever."[1]

Regardless of Doctor Slunin's hospitality the Koryak peremptorily refused to allow themselves to be examined.

D. S. Jochelson-Brodskaya encountered similar difficulties during her investigations of some of these native groups. She gives the following report on her work among the sedentary Koryak of Penshinsky Bay in the Sea of Okhotsk in the winter of 1900–1901:—

> "The scanty light penetrating into the underground hut through an opening which served as an entrance as well as a smoke aperture, and the biting smoke that filled the dwelling, made it very difficult to measure the Koryaks. But besides, neither words nor presents could persuade the obstinate Koryak women to undress and allow themselves to be measured."[2]

These difficulties explain the great interest taken in a group from the above-mentioned tribes living in Leningrad since 1926 and preparing to enter the Oriental Institute later on. Anthropological materials have been collected by examining some of the students attending the "Northern Faculty" (official name). Not only have these students who belong to the above-mentioned tribes been examined, but also those belonging to other ethnical groups, as: the Zyrani (Komi), Ostyak, Samoyed, Lapp, Buryat-Mongol, aborigines of Tannu-Tuva, Tibetans, Uigur, Shortzi (Altai Mountains), Kazak and Kalmuck. One hundred and fifty persons have been examined, the total number of students being one hundred and ninety-five. In this article only some of the results, namely, those derived from an investigation of the Palaeoasiatic and Tungus-Manchurian groups, will be discussed. The investigation was made in the winter of 1927 and the spring of 1928 and was carried out by the author and his collaborators, Messrs. Geselewich, Libman, and Petrov.

---

[1] Slunin, *The Okhotsk and Kamchatka Region,* St. Petersburg, 1900, vol. 1, p. 378.

[2] Jochelson-Brodskaya, D. S., A Contribution to the Anthropology of Women of the Tribes of the Extreme Northeast Siberia, *Russian Anthropological Journal,* 1907, nos. 1–2, p. 2.

The investigation followed the schedule of the Anthropological Department of the Museum and included not only measurements and morphological descriptions, but also the physiological and biochemical characters (isoagglutination of blood). The measurements correspond to those adopted by the International Agreement. Descriptive characters were noted according to a scheme similar to that of the Vienna anthropologists Pöch and Weninger. The following physiological characters were observed: hand-grip of the right and left hand (Collin dynamometer), temperature (arm pit, with a maximum thermometer), pulse, respiration, blood pressure (with a medium model tonometer), percentage of haemoglobin (with the apparatus of Saly). The isoagglutination of blood was examined microscopically on slides with standard serums in solution 1:2. Physiological observations were made during the morning hours from nine to twelve. Temperature of the body, pulse, respiration, and blood pressure were taken with the subject seated.

The Palaeoasiatics consisted of Aleut (3), Gilyak (9), Koryak (1), Chuckchee (2), Yukaghir (1), Chuvantzi (1), Kamchadal (4), Yenisseian Ostyak, or Kates (13); in all, thirty-four persons, including five women. Among the Tungus-Manchurian were 16 Gold (3 of them were Samoghir), 1 Dolgan, 1 Olcha, 2 Negidalts, and 45 Tungus (from Sakhalien, Okhotsk, Amursk, Irkutsk, Transbaikal). This group consisted of sixty-four persons, among whom were ten women, who will be included only in reckoning the blood groups. All the other data concern only men, who were grouped according to age, as shown in Table 1, from which we can see that in both groups most of the individuals were twenty to twenty-four years old.

TABLE 1
DISTRIBUTION BY AGE

Tribe	14–19		20–24		25–31		Totals
	No.	%	No.	%	No.	%	
Palaeoasiatics	9	31.05	14	48.30	6	20.70	29
Tungus-Manchurians	19	35.15	30	55.50	5	9.25	54

Jochelson-Brodskaya states that in analyzing the measurements of the Yakut and Tungus women only "pure types" were included, and all those persons "in whose genealogy there was, according to inquiries made, an admixture of strange blood," were excluded. It was impossible to make a similar choice among the Yukaghir women as "they are physically an intermingling of tribes; they have intermixed most of all with the Tungus." At the present time this intermixing of tribes has increased. For instance, four Kamchadal, who consider themselves as belonging to this ethnical group, are in fact Tungus-Russian hybrids. A Tungus of the Turukhansky District, Lantogher, twenty years old, told us the name of his father's (Lantogher) and his mother's tribe (Khunyka); however, his features show some European traits which point to a possibly remote admixture of alien blood. The same fact applies to the Tungus, Putugher, seventeen years old, from the Preobrashensky District, Irkutsk Government, who does not know to what ethnical group his father belongs. An Ostyak, from Turukhansky District, Ilya Dibikov, nineteen years old, calls his parents Ostyak, though his face shows many European features (Fig. 1).

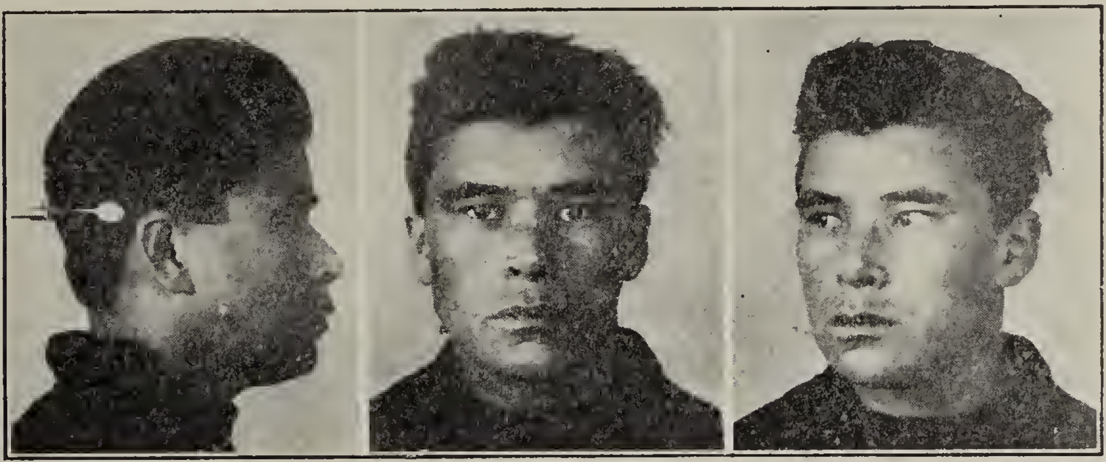


FIG. 1—A YENISSEIAN OSTYAK OF THE TURUKHANSKY DISTRICT: AGE, 19; SKIN COLOR, 10; HAIR COLOR, 8; EYE COLOR, 7; STATURE, 157.2 CM.; CEPHALIC INDEX, 78.19; FACIAL INDEX, 88.64; NASAL INDEX, 62.50; BLOOD GROUP II

Before turning to the descriptive characters of the groups under investigation something should be said of the comparative size of the families, as far as can be judged from the data on the anthropometric schedule, which contains the following demographic questions: sex, age, tribe (of father and mother), occupation, economic and family conditions, place of birth, as well as age of parents, and number of brothers and sisters (alive and dead).

TABLE 2
NUMBER OF BROTHERS AND SISTERS

Tribe	Brothers		Sisters		Totals
	Alive	Dead	Alive	Dead	
Palaeoasiatics	49	33	42	44	168
Tungus-Manchurians	64	66	71	48	249

The answers to these questions are grouped in Table 2. The thirty-four Palaeoasiatics had 86 sisters (51.2 per cent.) and 82 brothers (48.8 per cent.), the total being 168 persons. Ninety-one of them, namely, 49 boys (53.8 per cent.) and 42 girls (46.2 per cent.) were still alive. In other words, more boys than girls survived. This is confirmed by the seventy-seven who died. Among them were 33 boys (49.9 per cent.) and 44 girls (57.1 per cent.). We see that 54 per cent lived, while 45.8 per cent. died. Fifty Tungus-Manchurians had 130 brothers (52.2 per cent.) and 119 sisters (47.8 per cent.), the total being 249 persons. Contrary to the Palaeoasiatic tribes, in this case more girls (71, or 52.6 per cent.) than boys (65, or 47.4 per cent.) remained alive. Sixty-six (57.9 per cent.) boys and 48 girls (42.1 per cent.) were dead.

If we divide the total number of brothers and sisters by the number of individuals observed we arrive at the result of 2.7 persons for the Palaeoasiatic and 4.9 persons for the Tungus-Manchurian. Taking also into the consideration the subjects examined, the average number of children for each family is 3.7 for the Palaeoasiatic, and 5.9 for the Tungus-Manchurian. The latter is no less than that of the Russian peasants of central European Russia. The Palaeoasiatic families are smaller. We may mention here that S. Patkanov in his work on depopulation of the primitive Siberian tribes told us that:—

> ''All the eastern part of the northern district of aborigines is characterized by its considerable decrease in the number of children.''[3]

This corresponds to our Palaeoasiatic group. The same author writes:—

> ''As to the number of children, the Siberian aborigines are not at all the last among the peoples of Russia.''

Notwithstanding the considerable number of children born in each family the native Siberian population has decreased, owing to the severe public calamities, such as epidemics, hunger, epizooty, which occur very seldom in European Russia.

Now we turn to the descriptive characters. The skin color was defined according to Professor von Luschan's scale. The distribution of this character among both groups may be seen in Table 3, where the skin color on the external side of the arm is shown.

TABLE 3

SKIN COLOR ACCORDING TO VON LUSCHAN'S SCALE

Tribe	Totals	6	8	9	10	11	12	13	14	15	16	17
Palaeoasiatics	14		1		3	4	4		1			1
'' per cent.			7.14		21.42	28.56	28.56		7.14			7.14
Tungus-Manchurians	39	1	2	1	4	6	12	2	4	6	1	
'' per cent.		2.56	5.12	2.56	10.24	15.36	30.72	5.12	10.24	15.36	2.56	

The maximum falls on nos. 11–12. There were some rosy-brown tints (nos. 15–17) and also an isolated tint (no. 6). The latter has, according to Haustein, as its components: white, 6 per cent.; red, 52 per cent.; yellow, 15 per cent.; and black, 27 per cent.; whereas no. 11 contains only 5 per cent of the black component and no. 12, 10 per cent.

Hair color was defined according to Professor Fischer's table. The results of the observations are shown in Table 4.

TABLE 4

HAIR COLOR ACCORDING TO FISCHER'S SCALE

		27		4		5		6		7		8	
Tribe	Totals	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Palaeoasiatics	18	10	55.50	5	27.75					2	11.10	1	5.55
Tungus-Manchurians	44	27	61.29	13	29.51	1	2.27	2	4.54			1	2.27

We can see that the hair of the Palaeoasiatic, as well as that of the Tungus-Manchurian, is characterized by the darkest numbers of Fischer's table. The lightest tints, nos. 7 and 8, were noted mostly on Yenisseian Ostyak (3 persons) and Olcha (1 person). All the subjects examined had stiff, straight, and rather thick hair.

---

[3] Patkanov, S., *On the Growth of the Aboriginal Population of Siberia*, St. Petersburg, 1911, p. 156.

Eye color was defined according to Martin's table. The distribution of this character is shown in Table 5.

Table 5

Eye Color according to Martin's Table

Tribe	Totals	1		2		3		4		5		6		7	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Palaeoasiatics	18			2	11.10	7	38.5	6	33.0	2	11.10			1	5.5
Tungus-Manchurians	45	1	2.22	13	28.86	11	24.42	14	31.08	3	6.66	3	6.66		

The greatest number of individuals had pure dark brown eyes: no. 1, that with a black iris which cannot be differentiated from the pupil, was found on one member of the Gold tribe. Several travelers have stated that some of the Yenissian Ostyak had blue eyes; however, among the thirteen Kates, we observed no blue eye color.

In this preliminary report we cannot consider the descriptive and measurable characters in detail, the more so, as we hope to add some new observations collected from persons who have entered the northern Faculty during the present year. Data on pigmentation of the Palaeoasiatic and Tungus-Manchurian, recorded in the above-mentioned tables have not yet been noted in anthropological literature, and therefore we present them here tentatively.

From the photographs we can see that we are dealing with ethnic groups having clearly defined Mongoloid characters. In the Palaeoasiatic group these traits are strongly emphasized among the Gilyak (Fig. 2). Though the complex of Mongoloid traits is slightly reduced in some individuals, still the dark pigmentation, the face breadth, the swelling of the space between the eyebrow and the upper eyelid, and a scant development of body hair remains invariable. But the Mongoloid eyefold is somewhat weakly expressed. The most interesting

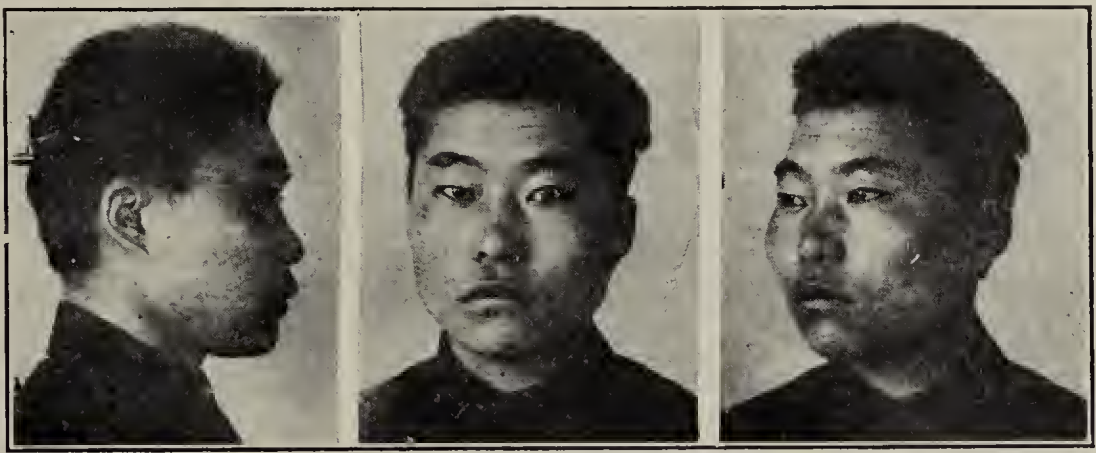


Fig. 2—A Gilyak of the Nikolaievsky district: age, 20; skin color, 11; hair color, 27; eye color, 4; stature, 154.7 cm.; cephalic index, 79.79; facial index, 84.21; nasal index, 63.16; blood group II

examples of breadth of face and prominence of cheekbones are found among the Tungus (see Figs. 3, 4).

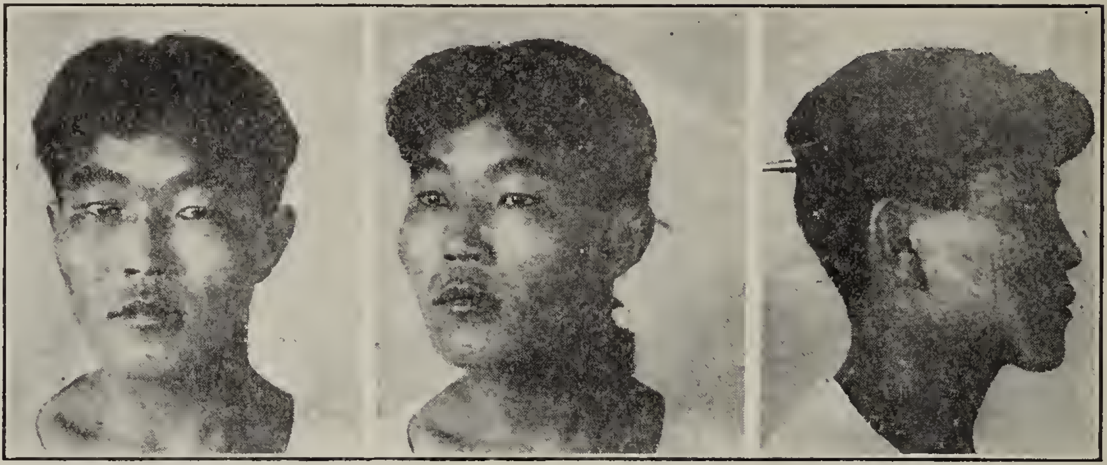


Fig. 3—A Tungus of the Yakutsk region, Nilkansky district: age, 24; skin color, 12; hair color, 27; eye color, 3; stature, 161.5 cm.; cephalic index, 83.61; facial index, 93.38; nasal index, 60.71; blood group IV

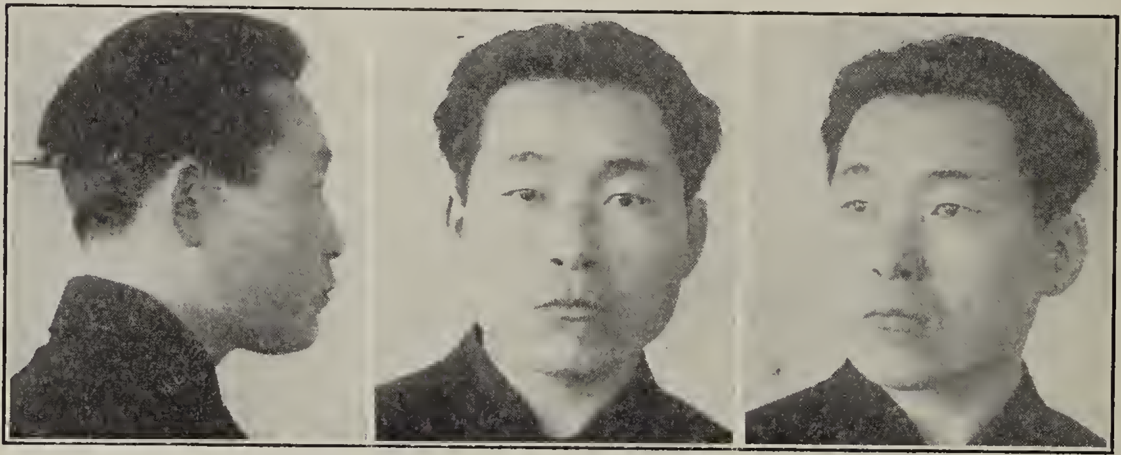


Fig. 4—A Tungus of the Olsky district: age, 23; skin color, 12; hair color, 4; eye color, 2; stature, 161.8; cephalic index, 84.13; facial index, 81.05; nasal index, 68.63; blood group II

Considering bodily proportions and constitutional types, we see a strong prevalence of the brachymorphic type (according to Bryant, the herbivorous type) which is characterized by its long trunk, short legs, and considerable slope of the pelvis angle and ribs. As an example of this type we may take the Tungus, Putugher, 20 years old, who has the following morphological traits:—

Stature	156.8 cm.	Relative length of trunk	32.2
Circumference of the chest (pause)	86 cm.	Angle of pelvic slope	59°
Weight	60 kilo.	Angle of rib slope	50°
Length of trunk	50 cm.		

The opposite, namely, the dolichomorphic type, has not been found in its extreme form among the subjects examined. It is known that the brachymorphic type of the European population has no tendency to tuberculosis, whereas among the brachymorphic Tungus people more than one-half are subject to this disease. One cannot help thinking that unfavorable environment seems in this case to conquer constitutional peculiarities and correlative connections. This question should be seriously studied by specialists.

Now we turn to the physiological characters. Only healthy subjects were examined. Since the rectal temperature is the most constant, it is to be regretted that we could not make this observation, but took only the temperature of the right arm pit. For forty subjects of a mixed group examined (Palaeoasiatic and Tungus-Manchurian) the mean was equal to 36.68 ± 6, $\sigma = 0.39$. The range of variation is shown in Fig. 5. The temperature of the body is very important

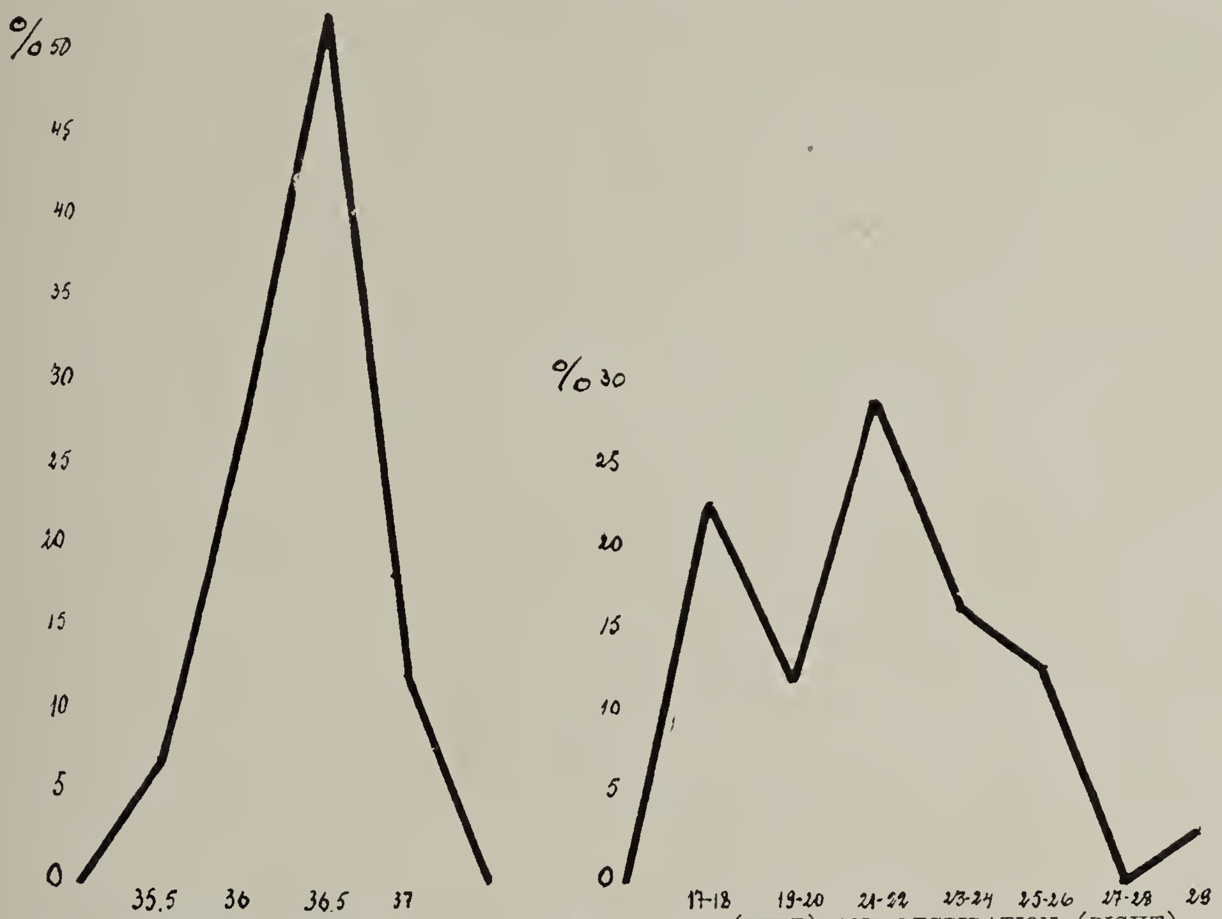


FIG. 5—RANGE AND DISTRIBUTION OF TEMPERATURE (LEFT) AND RESPIRATION (RIGHT)

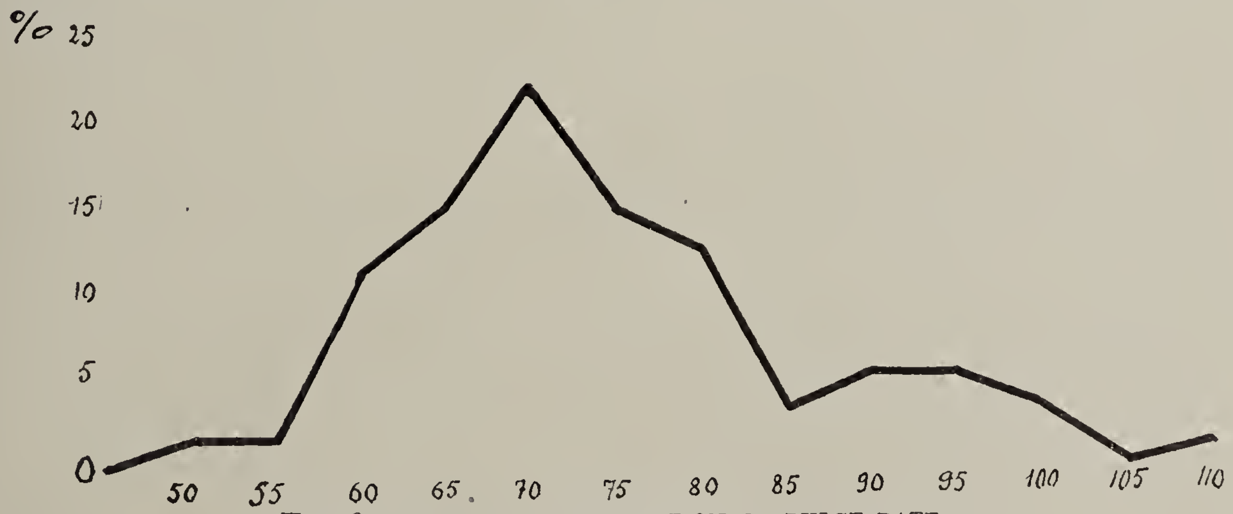


FIG. 6—RANGE AND DISTRIBUTION OF PULSE RATE

and at the same time a most constant, *i.e.,* slightly fluctuating, character. According to Kon, the mean temperature of the Yakut was 36.7. It should be noted that this author took the temperature under the tongue. For tribes of the more southern countries we have some data given by Svidersky on the Kumyk of the Caucasus (36.86 for a group 20–29 years old), by Paisal on the Taranchi in Semirechensk (36.8), by Brovtsin on the Abyssinians of Shaw Province, 36.75 (for an age group of 20–30).

As to respiration rates during one minute, the mean for the same group was 21.50 ± 0.53, $\sigma = 2.91$. Range of fluctuation (17–29) and distribution of the variations are shown in Fig. 5. For the Yakut the mean respiration obtained by Kon was 21.4 counts per minute; for the Kumyk of a corresponding age group, 21.0; and for the Abyssinians, 21.46. We do not find any biometrical analysis of the materials in the articles by these authors. Consequently, we have neither mean, probable error, nor standard deviation. We may understand from Doctor Wissler's work that the native-born Americans ranged in respiration rate, according to their parents' origin, from 19.87 to 21.06.[4] Miss Bell obtained an average of 15.84 ± 2.35 for soldiers in Budapest. These subjects were observed before rising in the morning. Hrdlička records a smaller range of fluctuations (12–22) for American Indians than that for our subjects. Ferris examined seventy-eight persons which gave him the average respiration rate: 17.2 ± 1.8.

Pulse rate records were taken of fifty-five subjects and the mean of this character was 76.45 ± 1.64, $\sigma = 12.2$. The range of variations is shown in Fig. 6. Kon gives 77 as the average pulse rate for an age group of 26–30 years (16 persons), which is very close to our average. For the Kumyk, the mean pulse rate is 78; for the Taranchi, 78.64; for the Abyssinians, 77.77 (58 persons, age 20–29). For the Americans, Wissler records very high figures for pulse rate: from 89.6 to 91.0 (depending on parents' origin). The morning pulse for the soldiers in Budapest was 64.2 ± 8.48 (probably 0.848!). The range of fluctuations was here 45–85, *i.e.,* considerably below that observed upon our subjects. Hrdlička maintains that the rates for American Indians (44–78) are lower than for whites. The same author considers the figure (76.31) recorded by Gould based on investigation of 503 Indians, as being very low. However, Ferris' seventy-four observations on Indian tribes gave the mean 74.0 ± 9.6 (?). Investigations made by Chamberlain upon Filipinos gave the average pulse rate for one series as 79.1; for another, 81.5. The tropical climate seems to increase the pulse rate. We may state that after Europeans have spent a few years in the tropics, their pulse rate shows an increase of about ten beats per minute.

The northern climate does not seem to have any considerable effect on the pulse. The mean in our series is not lower than that of observations made in more southern districts, and it is higher than for the soldiers in Budapest. However, it may be that the latter were a selected group which can hardly be compared with the population in general.

Blood pressure was taken on thirty-seven persons. The mean of systolic (maximum) blood pressure equals 119.95 ± 1.92, $\sigma = 11.65$. The mean of diastolic (minimum) blood pressure is 77.25 ± 1.73, $\sigma = 10.5$. The difference between the systolic and the diastolic blood pressure (called *Pulsdruck* by German authors) is 45.1 ± 1.04, $\sigma = 6.3$. The range of variations of these characters may be observed in Figs. 7, 8.

Americans of 28–45 years had a maximum pressure of 131.3 $\sigma = 13.9$ (84 persons). In the tropics a lower blood pressure of the natives was observed. Chamberlain records that 21 to 25 year old Filipinos had a maximum blood pressure of 115.4. According to Oliver, the Hindus of Calcutta have a still lower

---

[4] Wissler, Clark, Comparative Data on Respiration and Circulation among Native and Foreign-born Males in New York City, *Anthropological Papers, American Museum of Natural History,* vol. 23, part 6, 1924.

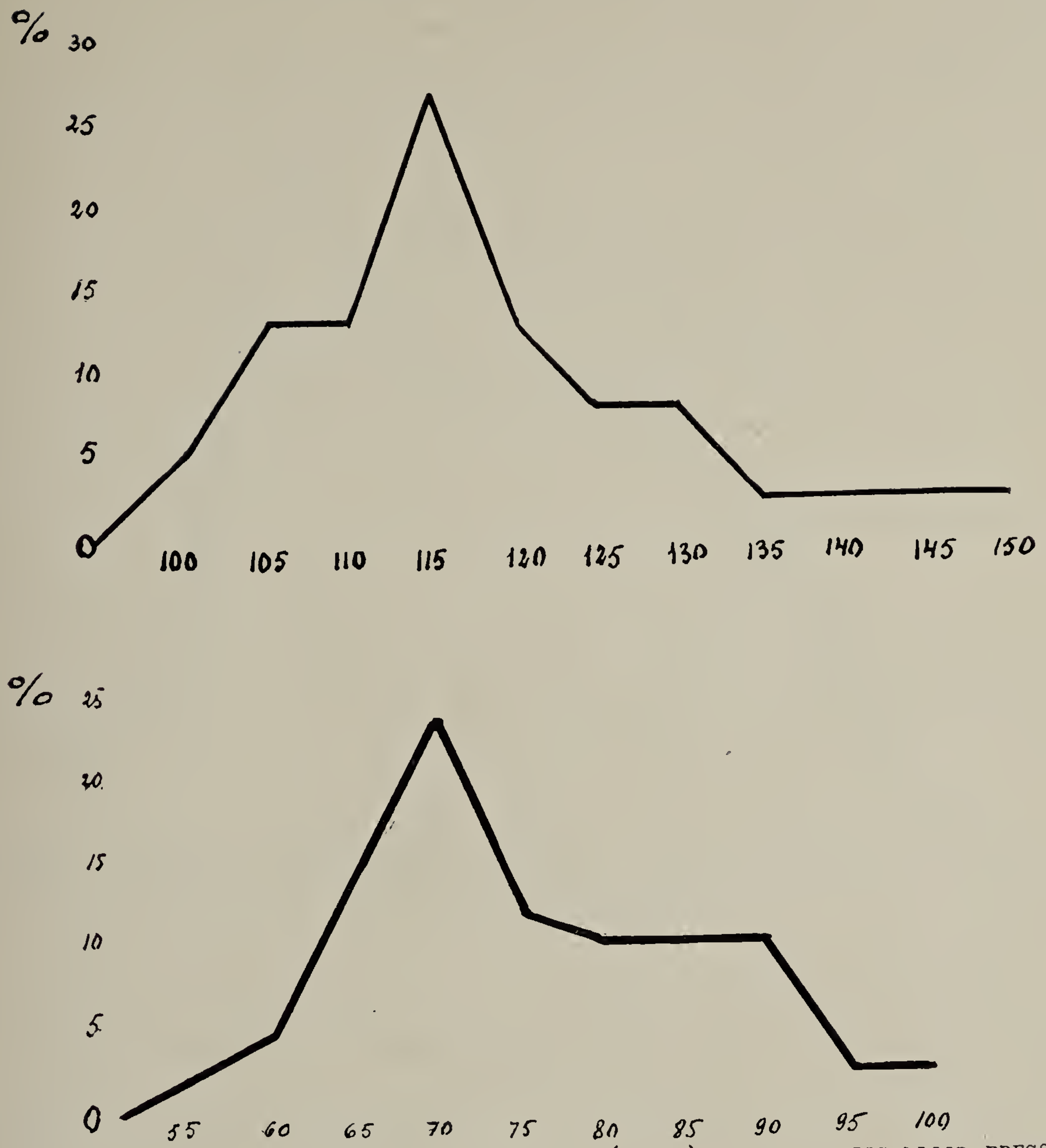


FIG. 7—RANGE AND DISTRIBUTION OF SYSTOLIC (ABOVE) AND DIASTOLIC BLOOD PRESSURE (BELOW)

average—100. The same figure was obtained on the students in Canton, 18 to 25 years old. For these latter, systolic blood pressure ranged from 100 to 108; diastolic pressure from 68 to 78.

It is well known that blood pressure rises with age. For this reason it is necessary to compare similar age groups. Observations made by our collaborator, E. G. Libman, upon 100 Chuvash soldiers, ages 22 to 24, gave the figures $S = 119 \pm 0.91$, $D = 80.31 \pm 0.88$, $S\text{–}D = 40.65 \pm 1.03$. The maximum blood pressure of the Chuvash is equal to that for the students of the Northern Faculty. Both the students and Chuvash soldiers were examined in Leningrad, not immediately after their arrival from their native country, but after they had lived about a year, in some cases more than a year, in the new environment. It is very desirable that future observations should be made upon representatives of the Northern peoples immediately upon their arrival from their own country, and that these should be systematically continued on the same subjects at definite intervals. This applies also to other physiological and some morphological characters.

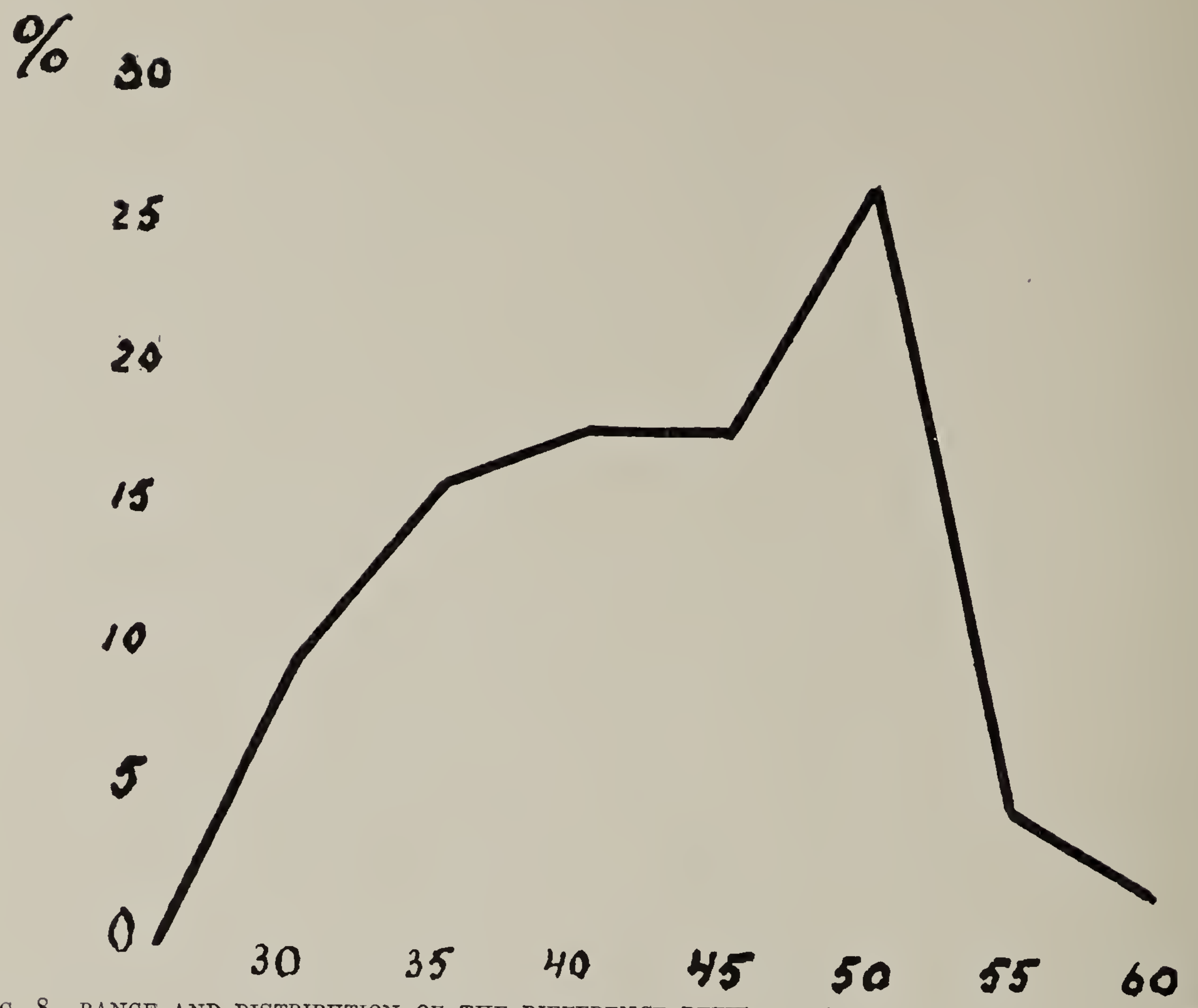


FIG. 8—RANGE AND DISTRIBUTION OF THE DIFFERENCE BETWEEN SYSTOLIC AND DIASTOLIC BLOOD PRESSURE (*Pulsdruck*)

Twenty-eight persons were examined as to hand-grip. For the right hand the mean is 35.08 ± 1.07, $\sigma = 5.64$; for the left hand, 30.36 ± 0.86, $\sigma = 4.66$. It may be noted that the hand-grip of these students examined is not below that of twenty-three year old Ukrainian soldiers, native peasants of the Kharkov Government. For this latter group G. A. Chistiakov[5] obtained in one case the average of the hand-grip as 35.3 ± 1.71, $\sigma = 6.55$ (for 130 persons); in another

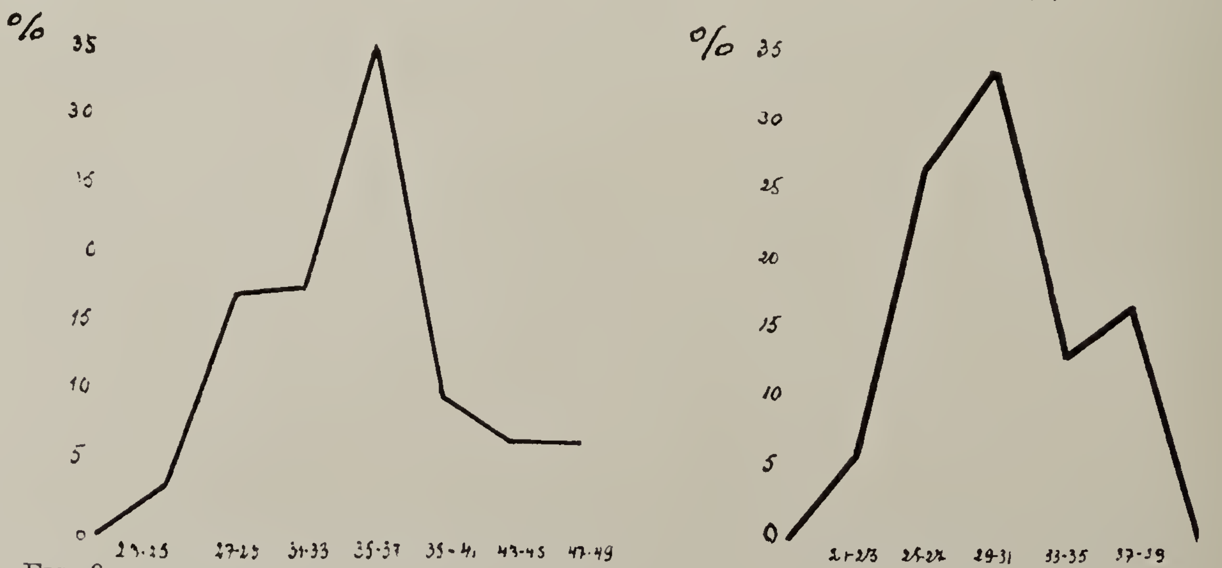


FIG. 9—RANGE AND DISTRIBUTION OF HAND GRIP: AT LEFT, RIGHT HAND; AT RIGHT, LEFT HAND

case: 36.5 ± 2.89, $\sigma = 6.35$. G. A. Chistiakov investigated the hand-grip with the same type dynamometer used by us, namely, that of Collin. It is difficult to compare these data with those of other authors owing to the diversity of methods adopted and the instruments used.

---

[5] Chistiakov, G. A., *Materials for the Anthropology of the Ukraine*, vol. III, Kharkov, 1927.

TABLE 6

PERCENTAGE AND ABSOLUTE NUMBER OF THE FOUR BLOOD GROUPS OF THE PALAEOASIATICS AND TUNGUS-MANCHURIANS

Tribe	No. of persons tested	Blood groups							
		I	(αβ)	II	(Aβ)	III	(Bα)	IV	(AB)
Aleut	3	2		1					
Gilyak	9	3		5		1			
Koryak	1			1					
Chuckchee	2			1		1			
Yukaghir	1	1							
Kamchadal	4	2				2			
Yenisseian Ostyak	13	3		6		2		2	
Palaeoasiatics	33	11	33.3%	14	42.4%	6	18.2%	2	6.1%
Tungus-Manchurians	64	25	39.1%	19	29.7%	11	17.2%	9	14.1%
Totals	97	36	37.1%	33	34.0%	17	17.5%	11	11.4%

In Table 6 are shown the results of the serological study of the blood groups of the Palaeoasiatic and Tungus-Manchurian (Fig. 10). The biochemical races of Bernstein are for all 97 persons equal to $p = 26.1$, $q = 15.7$, $r = 60.9$, $p + q + r = 102.7$.

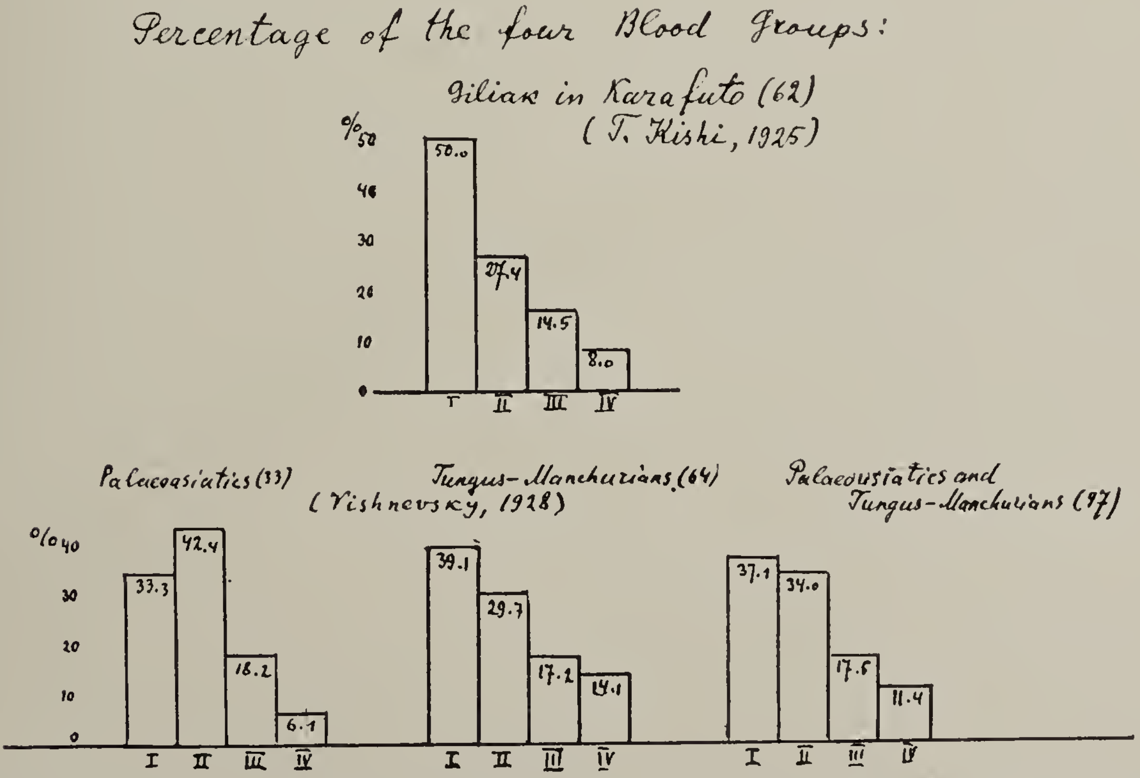


FIG. 10—PERCENTAGE OF OCCURRENCE OF THE FOUR BLOOD GROUPS AMONG THE GILYAK IN KARAFUTO, THE PALAEOASIATICS, THE TUNGUS-MANCHURIANS, AND THE PALAEOASIATICS AND TUNGUS-MANCHURIANS

It is to be regretted that the number of subjects examined is rather small and it is therefore difficult to arrive at any conclusions. It seems to be of great interest that for the pure Mongoloid ethnic group, blood group II prevails over group III, whereas usually group III is predominant over group II for Mongoloids. It may also be noted that the Japanese investigator, T. Kishi[6] obtained for sixty-two Gilyak (in Karafuto, Sakhalien Island) a distribution of blood groups which is very close to that noted above for all the ninety-seven subjects (see Fig. 10). Their neighbors, the Ainu and Orok, have another type of distribution of blood groups, which enables us to suggest a closer relationship of both to the Mongoloid race.

It is desirable that a broader research in blood groups and a careful genealogical analysis of the collected materials should be made. This would make possible an explanation of the results obtained by us and by the Japanese explorer, T. Kishi.

MUSEUM OF ANTHROPOLOGY AND ETHNOGRAPHY,
ACADEMY OF SCIENCES, LENINGRAD.

---

[6] Furuhata, F. and Kishi, T., A Study of the Ainu Race from a Serological Standpoint, *The Japanese Medical Word,* 1928.

LINGUISTICS

ESKIMO AS A LINGUISTIC TYPE

By William Thalbitzer

THE Eskimo language has been regarded as akin to the Ural-Altaic family. But the criteria of this kinship, which have been applied, are so scarce and the differences between the actual structures of these languages are so great that we would do better to keep them quite apart.[1] In the Eskimo the consonants have a four-fold division: there is an abundance of labials and uvulars as well as of open consonants (fricatives, aspirates) as may be seen from the following scheme.

Consonants of the Greenland Dialects

	Labials	Front tongue	Back tongue	Uvulars	
Closed	p	t (c)	k	q	*voiceless*
Open	f (φ)	s, ς, λ	χ	ϱ	
Open	v (w)	j, l	g	ʀ	*voiced*
Nasals	m	n	η	N	

The Eskimo language shows a full series of labials in contradistinction to the Athabascan (Tinneh or Na-déné) languages, which only know of one labial consonant (w).[2] Phonetically Eskimo is closer akin to the American Northwest Coast languages, Tlingit, Haida, Tsimshian, etc. But generally it avoids any accumulation of consonants, in contradistinction to all of the Northwest Coast languages. There are, however, many exceptions to this rule in some of the southern Alaska dialects,[3] and in West Eskimo as far east as Hudson Bay we find a few constantly recurring consonant groups (especially *ηm, ηn, tq, kp, ks, qs, bl, lr, gj, rηg*), but otherwise the rule obtains with increasing prevalence in the eastern dialects around the Davis Straits, in Labrador and in Greenland. In these dialects there is a common and therefore old tendency towards an assimilation of such accumulations, viz., groups of two different consonants, into a single long (geminated) one. On the other hand, true consonant accumulations do not seem to have obtained in Old Eskimo, and if we find certain stereotyped groups of consonants in the western dialects and in part in the eastern central too, these can in many cases be proved to have replaced an older stage with an intervening vowel in analogy with similar cases noted in the still existing dialects, e.g.:—

---

[1] Cf. my paper: ''Is there any Connection between the Eskimo Language and the Uralian,'' *Atti del XXII Congresso Internazionale degli Americanisti,* vol. 2, pp. 551–567, Roma, 1928.

[2] Sapir, *The Na-dene Languages,* etc.

[3] Cf. the Eskimo vocabulary and texts in Francis Barnum (1901), e.g. p. 272 seq. from which I take the following examples: Southwest Alaska *tutgha-..kilraek, oatmuqskufke-, enuqkutlhra, oatmuqtok, t'ketok, t'halthkopagmug, tuzhgha, gnilthka, illungklene-, itra-, kanru-, itingran, etinggnur'ma, sne-.* Similarly from Northwest Alaska (E. W. Nelson, 1899, p. 475): *u-tûkhnaukhtok* (Greenl. *uternartoq,*) *tûñkhpûtslû-* (Greenl. *cila-*), *itkhami* (Greenl. *erqame*) etc. Nelson's *kh* seems only to mean a single sound (phonetically *ʀ* or *q*).

Greenland	Mackenzie River Dialect	
(Modern language)	(Petitot, 1876)	
uʷλ·ume, today	*upélume*	
marλuk, two	*maléruk*	
qaλ·it, the uppermost	*qaleϱit*	
arqit(<**atqit*), names	*ateϱeet*	
	Northwest Alaska	Southwest Alaska
	(Jenness)[4]	(Barnum)
iʷλ·it, thou	*iλevit*	*λpit*
sis · ik, squirrel (?)	*tcikcrik*	*chézik,* (snake)
	(E. W. Nelson)	
qas·e, festival house	*käjigi*	*kazge*

The same feature is even more distinctly seen in the loan-words, e.g., in such words as the Greenland language has adopted from Danish:—

Da.	*præst*	(Engl.	priest)	became	Gr.	*pálasé*
"	*grus*	("	gravel)	"	"	*kulo·sit*
"	*silke*	("	silk)	"	"	*selike*
Norw.	*pork*	("	pork)	"	"	*puluke*[5]

Notice in these examples the distinct tendency towards vowel harmony. This tendency is otherwise not often seen in this language but comes to the surface, as it were, in such cases as these and occurs also sporadically in some dialect transitions of certain words.[6]

The glottal stop is not typical of Eskimo, although it is said to exist in some of the central dialects. In Danish loan-words in Greenlandic it disappears totally, for instance:—

(With glottal stop)	Da.	*te'*	(Engl. tea)	= Greenl.	*te·*	(Without glottal stop)
" " "	"	*vi'n*	(" wine) =	"	*ve·né*	" " "
" " "	"	*mi'l*	(" mile) =	"	*me·lé*	" " "

The most frequent vowel in Eskimo is the true back-vowel *a,* which occurs in a ratio of five to twelve as compared with the other vowels. The more protracted shades of the vowel *a* (e.g. *ä*) are relatively rare except when *a* is surrounded by front tongue consonants (e.g. in *at·ät* button; *täseq* lake; *säsʷsät,* opening in the ice). *a* is the most common initial sound. Many words have an

---

[4] Jenness, 1924, Myths, etc., p. 4A–9A.

[5] The South Greenlanders' name for themselves *Kala·lhlit* (plural of *Kala·leq*) was explained by S. Kleinschmidt as an Eskimo rendering of the Old Norse *Skraeling,* originally (in the Middle Ages) adopted in the form *Sakala·leq* later abbreviated to *Kala·leq.* These forms would be in accordance with the above mentioned rules, but, on the other hand, the resemblance of the Eskimo and Old Norse names may be quite accidental, since both of them can be explained independently from common words in the languages. Cf. my paper on the Skraeling words in the *Proceedings of the XVIII Congress of Americanists,* London, 1912, and (more copiously) in *Kgl. Danske Videnskabernes Selskab, Oversigt,* 1905 (no. 2).

[6] See *The Ammassalik Eskimo,* Sec. Part (Language), p. 124, §26 (and ad text no. 251, p. 503, note 6–7). Another example from East Greenlandic is the endings in *ilertiwa,* I being concealed, and *torqortua,* I being hidden. Text no. 85.

a in each syllable, e.g., *awan·arpartarsa·rpa* 'it caused him to move constantly farther north.'

The uvularized vowels (*ar, aq; er, eq; or, oq*) constitute at least one-ninth or rather one-tenth of all the vowels. I consider a combination like *ar* as one single sound and as a peculiar kind of vowel; and the same applies to *er* and *or,* these being merely uvularized *a, e,* and *o* vowels. Therefore, *arp, art, ars* (*erp,* etc., *orp,* etc.), do not mean vowel plus consonant groups, but each of them merely means one vowel plus one (long) consonant: *aʳpp, aʳtt, aʳss* (etc.). It should be noted that in Eskimo vowels as well as consonants occur both long and short and that the difference serves to keep otherwise identical words apart. It makes a considerable difference whether we say *ata, ama* or *a·ta, a·ma* or *at·a, am·a* or *a·t·a, a·m·a.* We have short *n* plus long *a* in *ana·,* but long *n* in *an·a* (*awan·aq* north, north wind). The consonant which follows an *r* is always long (geminated), thus *awan·arpartarsa·rpa* contains a long *n, p, t, s, p* (and five short and two long *a*s).

All the long or geminated consonants (the nasals only excepted) are unvoiced sounds: *k* may be described as a voiceless back-tongue pause, *s* as a front-tongue whisper. A careful examination of the frequency of the tenues or stop consonants (*q, k, t, p*) and of the other voiceless consonants (aspirates etc., λ, *s,* ɸ, χ, ꞔ) shows that the voiceless ones prevail among the consonants: Eskimo speech abounds in voiceless sounds. Few, if any, languages in the world rival Eskimo in this respect. Phonetically Eskimo speech is chiefly composed of vowels and voiceless consonants: pure or uvularized vowels, nasals, voiceless uvulars, stops (tenues), and sibilants (aspirates, fricatives). E.g. (̥̊ signifies lack of voice) :—

iλ·o a house—iλ·oq̊arp̊oq̊ he has a house.
t̥̊ik̥ip̊·aλ·ap̊·a· h̊e is said to have arrived there.
s̥äλ·oq̊it̥̊·art̥arp̊a· he used to cheat him.
oq̊årf̥ig͓̊erq̊a·raλ·auk̥ tell it him at first, please.

The rhythm of speech is very irregular though at the same time disciplined, as it were, by the inherent weight of the individual sounds, each syllable holding its own, due to the fixed quantities of the constituent sounds. Therefore, the natural speech has something of the character of drumming, especially noticeable in recitation and lofty style.

Here I may add that there is no system of fixed *musical* pitch in the words to differentiate their meanings (as is the case in Athabaskan,[7] Chinese, Indo-Chinese languages, and many others). But notwithstanding the guttural and "drumming" character of the language of the Eskimo, their speech is often melodious and expressive.

THE TOWING KAIAK MAN[8]

Dialogue between a kayak man who is rowing beneath the rocks and a man who is on shore:—

ajàna	Hai, you yonder!
suna k̇àn·a k̇alip·e·	What is it you are towing?
at·iwitce at·iwitce k̇alip·ara	A crested seal, I tow.

---

[7] E. Sapir, Pitch Accent in Sarcee, an Athabaskan Language, *Journal des Américanistes de Paris,* N.S. vol. 17, Paris, 1925.

[8] From Thalbitzer, William, *The Ammassalik Eskimo,* Second Part, p. 223 (text no. 25).

kea kȧn·a tät·ulätca·	Who shall have the sealskin down there?
nuliama tät.ulätca.	It is a skin for my wife's fur jacket.
ne.niartïwaqami tät.utalik	She only wears the skins of young crested seals,
nätsiät naq·iwiηa·i̯t	She despises the young common seals.

One result of the synthetic character of the Eskimo language is that a written or printed text (Greenlandic) does not occupy so much space in a book as the corresponding English or Danish translation. The Eskimo very often express in one word what we should say in a long sentence, for instance: *nuka·riwaλ·a·qigawk·o erλ·igo·tiη·ilara,* "the fact that he is my younger brother (*nuka*) meant far too much to me to permit me to decline his wish and be stingy towards him." Even if we were to use a word-for-word translation, the two Eskimo words could hardly be translated by fewer words than the following: "because he is too much my brother, I did not make him become an object of my being stingy," thus nineteen English words as against two Eskimo. I have compared two parallel texts, a Greenland original text and a Danish translation printed in the same type. Fifty pages of the Greenland text corresponded to sixty pages of the Danish. I have also summed up the words of two parallel texts, one hundred Greenland words were, on an average, translated by six hundred sixty-six English words, this being the shortest translation possible, if every significant element of the Greenland words were to be accounted for. We may then conclude as follows:—

In the Greenland Eskimo language so much is condensed or packed in each word as would demand, on an average, six or seven English words. In the long Eskimo sentence-like words, or word-sentences, the elements of thought are joined, as it were, in a prison, whereas the same elements, in our more analytical kind of language, are dealt with as free individuals.

In the Eskimo language this result is reached by means of a grandiose system of suffixes, which are chained to the chief words and which in a large measure replace the syntactical and grammatical machinery of our languages. The Eskimo language is extremely rich in inflexional forms, the conjugation, e.g. of a common verb being served by about three hundred fifty suffixes, equivalent to our personal pronouns and verb endings. For the declension of a common noun there are one hundred fifty suffixes.

There is no article and no gender nor, in the verbs, any separate auxiliaries or copulas except such as are expressed by means of suffixes. There is, in fact, no genuine verb.

The possessive flexions concern equally both nouns and verbs:—

1. *qaia-ra* *takuva-ra*
   kayak my saw-it I
   i.e., I saw my kayak

2. *qaiar-se* *takuvar-se*
   kayak your saw-it you
   i.e., you saw your kayak

3. *qaia-a* *takuvar-put*
   kayak his saw-it we
   i.e., we saw his kayak

4. *qaiar-put* *takuva-a*
   kayak our saw-it he
   i.e., he saw our kayak

It is distinctly seen from these examples that the suffixes for I and my (-*ra*), you and your (-*se*), we and our (-*put*), he and his (-*a*) are used indiscriminately in noun and verb. Still, nouns and verbs form two classes of words, which are kept apart by certain criteria in their systems of inflexion. They seem to be only sub-classes of a more general kind of words, which has not yet been adequately established.

The "possessive inflexion" is based on a double set of suffixes, transitive and intransitive, corresponding with the two basal cases of the noun, the *Absolutive* case (intransitive) ending in *q* (or *k, t*) or a vowel and the *Relative* case (transitive) in *p,* the latter having also the function of the genitive.

The absolutive is used if the noun is made the subject of an intransitive verb (example 1) or the object of a transitive verb (2) :—

1. *qaiaq tikip · oq*—a (or the) kayak has arrived
2. { *qaiaq takuvara*—I saw a (the) kayak
   { *puisse takuvara*—I saw a (the) seal

The relative (genitive) of the noun is used if this is the subject of a transitive verb (viz., a verb which actually has or contains an object, examples 3–4) :—

3. *pussip qaiaq takuva·* (<-*aa*)—the seal saw the kayak
4. *puissip takuva·ηa* (<-*aaηa*)—the seal saw me (-*ηa*)

The same p-form of the noun, followed by another noun which is possessively inflected, is regularly translated (in our family of languages) as genitive and in Eskimo there is no other kind of genitive :—

5. *puissip piara·*(-*aa*)—the seal's its young one (*piaraq*)
   iλ·up ilua—the house's its interior (*iλ·o* the (a) house; *ilo* interior)
   qitornap arna·—the child's its mother (*qitornaq; arnaq*)

In the plural of the noun, however, there is no audible (visible) difference between the absolutive and the relative :—

puissit piara · it—the seals' their young-ones,
the young-ones of the seals
puissit qaiaq takuva·it or, *qaiaq puissit takuva·it*—the seals saw the kayak

Here the close connection is not denoted in the ending of *puissit* where *t* merely signifies the plural, but is understood from the ending (-*a·it,* their, with the object in plural) of the second word of the group (nexus).

Every nation has its own style and its own ways of thought, which fundamentally stamp the forms of its language.

Two such languages as English and Eskimo are as different as a violin and an organ, and it demands much sense of style to translate from one to the other.

In his admirable introduction to the *Handbook of American Indian Languages,* Franz Boas[9] accentuates the unconscious character of linguistic phenomena. He draws a parallel, though, with the far more conscious ethnological phenomena, because he is of opinion that these also have probably originated not in rational, but in entirely unconscious (instinctive) processes of the mind.[10]

---

[9] Boas, *l.c.,* pp. 67–68.

[10] "Simple examples of this kind are actions which we consider as proper and improper, and which may be found in great numbers in what we call good manners. Thus table manners, which on the whole are impressed vigorously upon the child while young, have a very fixed form. Smacking the lips and bringing the plate up to the mouth would not be tolerated, although no esthetic or other reason could be given for their rigid exclusion; and it is instructive to know

It is easily understood that the instincts that govern linguistic habits in different parts of the earth may develop just as differently as the instincts governing social manners, and that they often even differentiate in opposite directions. If we would claim that our European languages express the only good manners of thought, then we must indeed wonder at the many kinds of bad manners we find throughout the world. But there is something behind the manners, buried deeper in the human mind, viz., the activity of the intellect, logic or right-thinking. We may ask: do all languages reflect one and the same norm of logic, or is there no such natural norm common to all linguistic societies? That is the question, and certainly one which cannot be solved without some considerations, both of an empirical and a philosophical kind, which would lead too far here. So much may be said, however.

The system of the Eskimo word classes or parts of speech is very different from that of our own languages. The words, or the elements of words, which we translate into our language as nouns, adjectives, verbs, adverbs, prepositions, etc., probably *are not really such in the Eskimo system. E.g.*, no genuine verbs are found, but we may speak of Eskimo quasi-verbs. The Eskimo verb is conjugated in accordance with the two principles, which correspond with the Absolutive and Relative, the two basic forms of the nouns. These terms mark a primary differentiation within the whole class of nouns and quasi-verbs and seem to correspond to the above mentioned grammatico-logical distinction between transitive and intransitive (the two chief ways of specifying the relation between a verb and one or two nouns). In the sentence there is no distinct verbum finitum, but a lot of forms which suggest our participles or the Latin participle, gerundium and gerundive.

The verb, or quasi-verb, has an indicative and interrogative and a great number of subordinate moods (contemporative participle; causal proposition, etc.). There are four degrees of conjugation and besides a special negative conjugation common to all verbs (*cf.* below). There are no possessive pronouns and no genuine personal pronouns; *uwaŋa* I, originally seems to mean 'my here (here-ness)'; *iʷλ·it* 'thou,' originally 'thy belonging, thy fellowship'; one common word (*una*) meaning he, she, it.

The numeral system is quinary, based on one to five, though with special terms for six, ten, eleven, and sixteen, and it amounts to twenty-one. They count always by means of their fingers and toes, twenty being "a man brought to an end" and twenty-one "the surplus" or "the first one on the next man."

It is also highly characteristic of the Eskimo language that they have no independent and inflexible word of negation like the English *not*, Lat. *non*, Danish *ikke*, Germ. *nicht*. The Eskimo have a verbal suffix for this, *i.e.*, a special

---

that among a tribe like the Omaha it is considered bad form, when invited to eat, not to smack one's lips, because to do so is a sign of appreciation of the meal." Boas, Franz, l.c.—By the way, I may mention that the same is true of the Eskimo, among whom the host would appreciate it if the guests also show their satisfaction with the meal by loud eructations from the stomach. Boas remarks in this connection that bad manners always awake rather intense feelings of displeasure, the psychological reason for which can be found only in the fact that the actions in question are contrary to those which have become habitual. "The manners contrary to custom are unusual, and therefore not the proper manners."

and peculiar verbal conjugation, as it were, meaning: not doing, not seeing, not coming, etc.; they infix *-η·i* or *-na* followed by certain endings of conjugation and possessive inflexion :—

Positive	Negative	
tikip·oηa, I come	*tikiη·ilaηa,* I do not come	*tikin·aηa,* without my coming
tikik·ama, I came	*tikiη·ik·ama,* I did not come	

All this will seem to prove that the Eskimo generally think and speak in accordance with the same fundamental principles of logic or right-thinking as the ones we ourselves adhere to, but that they do so in an extremely independent and original way.

In some cases they even excel us in the logic of their expressions, *e.g.,* in the way in which they will answer a *question put in the form of a negation.* Thus if you ask: Have you not finished? I should answer: No, I have not, meaning in my language: I have more to say. But the Eskimo would answer: Yes—yes, I have not—if he had more to say, but no, if he had finished. In Eskimo: Have you no more to say?—Yes, I have no more.—Have you no more to say?—No, I have much more to say. The Eskimo way, it will be seen, is the more logical.

Eskimo Mentality. The vocabulary is rich in expressions referring to hunting life and animals, technical terms of weapons and utensils in all their details and uses, terms of all sorts of empiric notions, and terms referring to the mind and senses, *e.g.,* special word stems meaning, to die from thirst, hunger, cold, or longing.

A peculiar category of basal stems expresses incapability, *e.g.,* stems meaning not to know, not to be able to, to have no proof, not to regard, etc., whereas the corresponding stems of positive meaning (to know, prove, regard) do not exist. ''I know'' is expressed by ''I do not ignore,'' ''I can'' by ''I am not unable to,'' even ''to be good'' has no positive stem, but is produced by negation of the verbal stem meaning ''to be bad, or evil'' (*ajorpoq,* is bad—*ajuη·ilaq,* is good).

They have words for stones of many kinds, iron, copper, but none for metal; for the various colors, but none for color; for numbers up to twenty-one, but none for number; for Eskimo (*inuk,* in plur. *inuit*) and for some few neighboring peoples in Canada, but none for mankind (humanity); for rain, wind, snow, frost, and the deity of the weather (*Sila*), but none for impersonal weather.

SAMPLE OF THE LANGUAGE

West Greenlandic. A fragment of the preface of a modern teaching book by the Greenlander, Jonathan Petersen, printed at Godthaab in South Greenland, 1921.

mêrartavta oĸalugtuautivut arajutsĩnarungnaertariaĸarpait, ilaitdlume nuánârutauvdlutigdlo isumagssarsiviusínáuput nalivtíne oĸalugtualiugagssanut túngavigssarsiviussariaĸardlutik kalâtdlit pimíkut sujumukartariaĸarmata.

mêrartavta *oĸalugtuautivut* *arajutsĩnar-*
(I) children appurtenant our (III) folk-tales provision-of our (II) to-neglect constantly
3 2 1 13 12 11 8 9

ungnaertariakarpait *ílaitdlunc* *nuánârutauvdlutigdlo*
to-cease always ought they-them (IV) some-of-them and indeed (V) amusing are they and
7 6 5 4 10 14 15 19 16 20 18 17 21

isumagssarsiviusínáuput *nalivtíne*
(VI) idea(s) future to-get really are-able-to they (VIII) height (time) our on (in)
27 26 25 24 23 22 39 38 37

oĸalugtualiugagssanut *túngavigssarsiviussariakardlutik*
folk-tale(s) wrought-out future to (for) (VII) basis future to-serve-as really common ought they
41 40 36 35 34 33 31 29 32 30 28

kalâtdlit *pimíkut* *sujumukartariaĸarmata*
(IX) Greenlanders things their-own through forwards to-move always ought because-they
44 51 50 49 48 47 46 45 42 43

Verbal translation which by comparison with the above text shows the contrasting arrangement of Eskimo and English elements of thought (the Arabic figures refer to our own manner of arrangement) :—

Our appurtenant children (they) ought always to cease to neglect constantly (them) our provision of folk-tales, some of which indeed (they) are both amusing and (they) are able really to get (us) future ideas (in that) they really ought to serve (us) as (a) common future basis for future—in our time (*i.e.*, modern) —wrought-out folk-tales, because (they) the Greenlanders ought always to move forward through their own things.

Finished Translation

The children of our time ought no longer to be constantly unfamiliar with our treasure of folk-tales, some of which indeed are both amusing and really suggestive and they really ought to be used in the future as a common basis (source) of modern artificial prose narratives, because the Greenlanders should always move forward through their own (national) things.

BIBLIOGRAPHY

BARBEAU, C. M. Classification of Iroquoian Radicals with Subjective Pronominal Prefixes, *Department of Mines, Memoir 46, Anthropological Series*, Ottawa, 1915.

BARNUM, FRANCIS. *Grammatical Fundamentals of the Innuit Language* (*Western Coast of Alaska*), Boston and London, 1901.

BIRKET-SMITH, K. Five Hundred Eskimo Words, a Comparative Vocabulary from Greenland and Central Eskimo Dialects, *Report of the Fifth Thule Expedition, 1921–24*, vol. 3, no. 3, Copenhagen, 1928.

BLOOMFIELD, LEONARD. Notes on the Fox Language, *International Journal of American Linguistics*, vol. 4, New York, 1927.

The Menomini Language, *Proceedings of the XXI International Congress of Americanists*, The Hague, 1924.

BOAS, FRANZ. Der Eskimo-Dialekt des Cumberland-Sundes, *Mittheilungen der Anthropologischen Gesellschaft in Wien*, vol. 24, Wien, 1894.

Handbook of American Indian Languages, Vol. I–II, *Bulletin 40, Bureau of American Ethnology*, Washington, 1911 and 1922, Preface and Introduction.

Tsimshian, Kwakiutl, Chinook (Siouan) *Ibidem.*

Introduction, *International Journal of American Linguistics*, vol. 1, 1917–1920, New York, 1920.

Die Klassifikation der Indianischen Sprachen, *Proceedings, XXI International Congress of Americanists,* The Hague, 1924.

BOGORAS, WALDEMAR. Chukchee, in Handbook of American Languages, *Bulletin 40, Bureau of American Ethnology,* Washington, 1911.

BRÖNDAL, VIGGO. Ordklasserne, Partes Orationis, Studier over de sproglige Kategorier, København, 1928.

DIXON, ROLAND B. AND KROEBER, A. L. The Native Languages of California, *American Anthropologist,* n.s., vol. 5, Lancaster, 1903.

Numeral Systems of the Languages of California, *ibidem,* vol. 9, 1907.

DIXON, ROLAND B. Linguistic Relationships within the Shasta-Achomawi Stock, *Compte-Rendu, Quinzième Congrès International des Américanistes à Québec,* Québec, 1907.

The Chimariko Indians and Language, *University of California Publications in American Archaeology and Ethnology,* vol. 5, Berkeley, 1910.

Maidu, in Handbook of American Indian Languages, *Bulletin 40, Bureau of American Ethnology,* Washington, 1911.

FINCK, F. N. *Die Haupttypen des Sprachbaues.* Leipzig, 1909.

Die Grundbedeutung des grönländischen Subjektivs, *Sitzungsberichte der Königlichen Preussischen Akademie der Wissenschaften, Phil.-Histor. Classe,* vol. 9, Berlin, 1905.

FRACHTENBERG, LEO J. Coos, Siuslawan (Lower Umpqua), in Handbook of American Indian Languages, *Bulletin 40, Bureau of American Ethnology,* Washington, 1911.

Comparative Studies in Takelma, etc., *International Journal of American Linguistics,* vol. 1, New York, 1920.

GODDARD, PLINY E. The Morphology and the Phonology of the Hupa Language, *University of California Publications in American Archaeology and Ethnology,* vols. 1, 3, 5, Berkeley, 1905 and 1907.

Athapascan (Hupa), in Handbook of American Indian Languages, *Bulletin 40, Bureau of American Ethnology,* Washington, 1911.

Has Tlingit a Genetic Relation to Athapascan? *International Journal of American Linguistics,* vol. 1, New York, 1920.

HAEBERLIN, H. K. Types of Reduplication in the Salish Dialects, *International Journal of American Linguistics,* vol. 1, New York, 1920.

HERMANN, ED. Die Wortarten, *Nachrichten d. Gesellsch. d. Wissenschaften zu Göttingen,* Berlin, 1928.

JENNESS, D. Myths and Traditions from Northern Alaska, the Mackenzie Delta and Coronation Gulf, *Report, Canadian Arctic Expedition, 1913–18,* vol. 13, Eskimo Folk-Lore, Ottawa, 1924.

Notes on the Phonology of the Eskimo Dialect of Cape Prince of Wales, Alaska, *International Journal of American Linguistics,* vol. 4, New York, 1927.

JENNESS, D. AND ROBERTS, HELEN H. Songs of the Copper Eskimo, *Report, Canadian Arctic Expedition 1913–18,* vol. 14, Ottawa, 1925.

JESPERSEN, OTTO. *Lehrbuch der Phonetik, Phonetische Grundfragen,* Leipzig and Berlin, 1904.

Language, London, 1922.

The Philosophy of Grammar, London and New York, 1924.

JONES, WILLIAM AND MICHELSON, TRUMAN. Algonquian (Fox), in Handbook of American Indian Languages, *Bulletin 40, Bureau of American Ethnology,* Washington, 1911.

KLEINSCHMIDT, SAMUEL. *Grammatik der grönländischen sprache,* Berlin, 1851.

Den Grönlandske Ordbog, omarbeidet af . . . , Kjöbenhavn, 1871.

LEWY, ERNST. Possesivisch und passivisch, *Ungarische Jahrbücher,* vol. 8, Berlin und Leipzig, 1928.

MICHELSON, TRUMAN. Two Phonetic Shifts occurring in many Algonquian Languages, *International Journal of American Linguistics,* vol. 1, New York, 1920.

The Classification of American Languages, *International Journal of American Linguistics,* vol. 2, New York, 1922.

PETERSON, JONATHAN. *Kalâtdlisut agdlangneq,* Nûngme (in Greenland), 1921.

PRINCE, JOHN DYNELEY. Grammar and Glossary of the Tule Language of Panama, *American Anthropologist*, n.s., vol. 15, Lancaster, 1913.

A Text in the Indian Language of Panama, Darien, *ibidem*.

Passamaquoddy Texts, *Publications, American Ethnological Society*, vol. 10, New York, 1921.

ROBELO, CEC. A. Notions de la langue Nahuatl, *Museo Nacional de Arqueologia, Historia y Etnologia*, Mexico, 1912.

SAPIR, EDWARD. The History and Varieties of Human Speech, *Popular Science Monthly*, 1911.

The Problem of Noun Incorporation in American Languages, *American Anthropologist*, n.s., vol. 13, Lancaster, 1911.

The Na-Dene Languages, a Preliminary Report, *ibidem*, n.s., vol. 17, Lancaster, 1915.

The Takelma Language of Southwestern Oregon, in Handbook of American Indian Languages, *Bulletin 40, Bureau of American Ethnology*, Washington, 1911.

Language. New York, 1922.

A Type of Athabaskan Relative. The Phonetics of Haida. *International Journal of American Linguistics*, vol. 2, New York, 1923.

Sound Patterns in Language, *Language*, vol. I, 1925.

Pitch Accent in Sarcee, an Athabaskan Language, *Journal des Américanistes de Paris*, n.s., vol. 17, Paris, 1925.

SCHULTZ-LORENTZEN. Dictionary of the West Greenland Eskimo Language, *Meddelelser om Grönland*, vol. 69, Copenhagen, 1927.

SETÄLÄ. Zur frage nach der verwandtschaft der finnisch-ugrischen und samojedischen sprachen, *Finn.-ugr. Forschungen*, vol. 30, no. 5, Helsinki, 1915.

SWANTON, JOHN R. Tlingit. Haida. (Siouan), in Handbook of American Indian Languages, *Bulletin 40, Bureau of American Ethnology*, Washington, 1911.

THALBITZER, W. A Phonetic Study of the Eskimo Language, *Meddelelser om Grönland*, vol. 31, Copenhagen, 1904.

Eskimo, in Handbook of American Indian Languages, *Bulletin 40, Bureau of American Ethnology*, Washington, 1911.

The Aleutian Language compared with Greenlandic, *International Journal of American Linguistics*, vol. 2, New York, 1922.

The Ammassalik Eskimo, First Part, *Meddelelser om Grönland*, vol. 39, Copenhagen, 1914. Second Part, (Music) Language and Folklore, *ibidem*, vol. 40, Copenhagen, 1923.

Eskimo Language, *Encyclopaedia Britannica*, London and New York, 1928.

Is there any Connection between the Eskimo Language and the Uralian? *Atti del XXII Congresso Internazionale degli Americanisti*, vol. 2, Roma, 1928.

On the Phonetic Transcription of Indian Languages, *Proceedings of the XXI International Congress of Americanists*, The Hague, 1924.

UHLENBECK, C. C. Ontwerp van eene Vergelijkende Vormleer der Eskimotalen, *Verhandelingen d. Konkl. Akademie v. Wetenschappen*, Letterkunde, n.r. VIII, Amsterdam, 1907.

Grammatical Distinctions in Algonquian, Lecture delivered at the Royal Academy in Amsterdam, Leyden, 1909.

Grammatische onderscheidingen in het Algonkisch, *Versl. en Mededeelingen d. Konkl. Akademie v. Wetenschappen*, Letterkunde. 4 r. X. Amsterdam, 1909.

De Conjunctief-achtige Modi van het Blackfoot, *ibidem*, XII, Amsterdam, 1913.

Het Identificeerend Karakter der Possessieve Flexie in Talen van Noord-America, *ibidem*, 5 r. II, 1916.

Het Passieve Karakter van het Verbum Transitivum of van het Verbum Actionis in Talen van Noord-Amerika, *ibidem*, 1916.

WIKLUND, K. B. *Lärobok i Lapska språket*, Uppsala, 1915.

WÖLDIKE, M. Betaenkning om det Grönlandske Sprogs Oprindelse og Ulighed med andre Sprog, *Kiöbenhavnske Selskabs Skrivter*, Kiöbenhavn, 1745.

UNIVERSITY OF COPENHAGEN,
COPENHAGEN.

FRAMMENTO D'UN DIZIONARIETTO LUISEÑO-SPAGNUOLO SCRITTO DA UN INDIGENO

Di Carlo Tagliavini

NEL mio volumetto *La lingua degli Indi Luiseños secondo gli appunti grammaticali inediti di un chierico indigeno*[1] ho spiegato come nella Biblioteca del vetusto Archiginnasio di Bologna si conservino fra i manoscritti del celebre poliglotta Cardinale Giuseppe Mezzofanti, molte carte riguardanti l'idioma della Missione di San Luis Rey; ho identificato l'autore di quelle carte nel chierico Paolo Tac nativo della Missione di San Luis Rey (1822) e studente alla Propaganda Fide a Roma (1834–1841).

Dopo avere pubblicato integralmente in quel volumetto il maggior nucleo del manoscritto del Tac, e cioè la parte grammaticale che mi servì di base per un breve studio linguistico,[2] ho attirato l'attenzione del XXIII Congresso degli Americanisti sulla parte etnologica del materiale fornitoci dal Tac.[3] Mi sia permesso ora di dire qualche breve parola sul Frammento di dizionario. Come già ebbi occasione di esporre in altro luogo,[4] il Dizionarietto è composto di tre quadernetti di formato piuttosto piccolo (cm. 13.5 x 19.5) ; è di settantadue pagine che nella antica numerazione andavano da 107 a 142 (contando solo il retto) e contiene circa milleduecento parole cominciando da *Acuotaj* e finendo a *Cupucupuimocuis.* Si tratta evidentemente di un abbozzo che forse fu continuato, ma certo non fu mai finito. Accanto a molte parole manca la traduzione. Vedremo in seguito quale sia il danno di queste lacune.

Io credo che il "dizionarietto" sia anteriore agli Appunti grammaticali spagnuoli e latini. Mi induce a questa convinzione dapprima la calligrafia meno sicura, che indica la minor preparazione culturale del giovane indigeno, ma specialmente alcune incongruenze ortografiche che non si riscontrano negli *Estudios* e molto meno nei *Rudimenta.* Nel dizionarietto non troviamo alcuna traccia di quegli apici, così giudiziosamente usati nella parte grammaticale, e che formano la superiorità del nostro manoscritto su parecchie *Artes* del tempo.[5] Io sospettai già che l'uso di tali apici e l'ordinamento grammaticale fosse stato suggerito al

---

[1] Tagliavini, Carlo, *La Lingua degli Indi Luiseños secondo gli appunti grammaticali inediti di un chierico indigeno conservati tra i manoscritti Mezzofanti nell'Archiginnasio di Bologna,* Bologna, 1926 (Bibl. dell' Archiginnasio S. II, N. XXXI), p. 5 segg.

[2] Tagliavini, Carlo, Osservazioni sul dialetto Shoshone di San Luis Rey (alta California) negli *Atti del XXII Congresso Internazionale degli Americanisti,* vol. 2, pp. 539–549, Roma, 1928.

[3] Tagliavini, Carlo, L'evangelizzazione e i costumi degli Indi Luiseños secondo la narrazione di un chierico indigeno, pubblicata in questi *Proceedings of the XXIII International Congress of Americanists,* pp. 633–648.

[4] *La lingua degli Indi Luiseños,* ecc., p. 11.

[5] Cf. *La lingua degli Indi Luiseños,* ecc., p. 12, n. 2 e *Osservazioni sul dialetto Shoshone,* cit., p. 542. Nel dizionario il Tac usa sempre *ñ* in luogo di *n'* (*ṅ*) che nella Grammatica indica la nasale pregutturale. Nella Grammatica si dice espressamente (p. 19) che *ñ* (Spagnuolo) non esiste.

Tac dal Cardinal Mezzofanti stesso.[6] In questo dizionarietto io non credo invece che entri il consiglio del celebre Cardinale. Infatti come si potrebbe pensare che un uomo tanto pratico di lingue avesse potuto consigliare di scrivere tutti i derivati verbali, come fa il nostro giovane indigeno? Ed io credo che il Tac stesso non avrebbe perso tanto tempo se avesse avuto già davanti a sè la sua stessa grammatica, dove, con molta esattezza, si spiegano le formazioni dei derivati verbali. Il mio pensiero è in due parole questo: il Tac cominciò un dizionario per suo uso e consumo o più probabilmente per presentare al Mezzofanti; dopo aver scritto alcuni fogli il Cardinale lo dissuase da questo lavoro proponendogli invece di scrivere dapprima una grammatica. (Il metodo Mezzofantiano di apprendere le lingue cominciava sempre dalla grammatica!) e di lasciare il lessico per un tempo ulteriore. La morte sorprese il giovane ancor prima che la grammatica fosse stata copiata e gli impedì non solo di finire il dizionario, ma anche di apporre la traduzione accanto a molte voci dell'opera sua rimasta interrotta.

Presentando a questo Congresso una copia fedele del manoscritto del Tac, corredata da alcune note necessarie a correggere alcuni errori del giovane Autore, credo di rendere un piccolissimo servizio alla scienza. Non mi nascondo affatto che questo dizionarietto ha un'importanza mille volte minore della "Grammatica" pubblicata due anni fa.

Le 1200 parole si riducono a poco più di duecento, perchè il Tac elenca tutta la filastrocca dei derivati verbali (sostantivo verbale, participio presente, passato, causativo, frequentativo, causativo-frequentativo ecc.). Di questo duecento parole venti[7] rimangono senza traduzione e precisamente le seguenti: *cappaniis, catappiis, cauuis, cauattis caualiis chañis, chammiis, chat, chacuot, chalat, chapiis, chicalaajis, chittis, chorris, chuppis, comiis, correorcorrorajis, cuijis, cuiis, cheiat.* Sarebbe probabilmente possibile riparare a queste lacune se si potesse usare il Dizionario compilato dal compianto Sparkman e esistente nella Biblioteca della Università di California a Berkeley.[8] Purtroppo, lontano come sono da tale centro, non ho potuto far questo lavoro. Un confronto coi vocaboli datici dal Tac stesso nella sua Grammatica e con quelli riportati dal Kroeber[9] permette solo di togliere una lacuna. Quella della voce *chat* che significa "civetta" a che come tale si trova nel manoscritto del Tac (pp. 16 e 19 della mia edizione).

In ogni modo restano molte altre voci che non erano conosciute, ed in attesa della pubblicazione del *Dizionario* dello Sparkman e che qualche studioso si decida a darci una buona monografio sulla Lingua dei Luiseños, penso che anche il materiale di vocaboli apportato dal nostro piccolo manoscritto possa servire.

Ho lasciato tutte le forme derivate perchè questo è un eccellente compimento alla grammatica; per quanto ogni lettore avesse potuto crear da sè quelle forme, non avrebbe mai avuto la certezza di creare forme ''vere,'' benchè sempre ''possibili teoricamente.'' Il dizionarietto contiene poi forme che integrano la grammatica; di queste mi servii già nella mia citata memoria *Osservazioni sul dialetto shoshone di San Luis Rey* presentata al precedente Congresso di Roma e mi permetto di rimandar il lettore a quelle pagine.

---

[6] *Osservazioni sul dialetto Shoshone,* ecc., cit. p. 542.

[7] Naturalmente dico venti contando solo le forme primitive, giacchè contando anche le derivazioni si forma circa duecento. Ma il rapporto è lo stesso. Non bisogna invece considerare come lacune le forme derivate che nell'ultima parte sono prive di traduzione. È evidente che il Tac era stanco di ripetere per ogni volta quanto il lettore poteva capir benissimo da sè. Tali lacune si colmano facilissimamente.

[8] Cf. *La lingua degli Indi Luiseños,* cit., p. 8.

[9] Kroeber, A. L., *The Shoshonean Dialects of California, University of California Publications in American Archaeology and Ethnology,* vol. 4, pp. 65–166, 1907.

Quanto alla completezza del dizionarietto, anche limitatamente alla parte delle lettere conservateci debbo avvertire che non ho un *terminus comparationis* non conoscendo il *Dizionario* dello Sparkman. Non mi faccio illusioni e affermo che dev'essere assai incompleto. Infatti nella Grammatica si trovano alcune voci incomincianti per *a* e per *c* che non figurano ai loro posti regolari nel Glossario. Tali sono p. es. *Conà* (p. 41 mia ed.), *ayalinre* (p. 43), *Cuottais* (p. 52), *Chulupais* (p. 52) ecc. Vediamo ora il testo del Tac.

FRAMMENTO DEL GLOSSARIO

acuotaj, aliviado
ababais, bermejizo
abiis, bermejear
abicat, el que bermejea
abimoquis, el que bermejeó
abiniabiniis, mandar que se bermeje
abiniicat, el que comanda que se bermeje
abiniimoquis, el que ha mandado que se bermejesse [*sic!*]
ababis, bermejear muchas veces
ababicat, el que mucho se bermejea
ababimoquis, quien mucho se bermejeò
abibiniabinis, mandar muchas vezes que se bermeje
abajis, bermejearse
abajimoquis, el que se ha bermejeado
abajis, el bermejarse
abiniabiniimoquis, quien muchas veces ha mandado que se bermejese
abiniabiniicat, quien muchas veces manda que se ber[me]je
aiàlis, saber
aiàlis, saber[10]
aiàlis, sapiencia
aiàlicat, sapiente
aiàlimoquis, el que ha sabido
aiàliniis, hacer saber
aiàliniicat, quien hace saber
aiàliniimoquis, quien hizo saber
aiàliniis, el hacer saber
aiàl-aialis, saber siempre
aiàl-aialis, el saber siempre
aiàlaialicat, quien siempre sabe
aiàlaialimoquis, quien siempre ha sabido
aiàliniaialiniis, mandar que sepan muchas veces
aiàliniaialiniis, el mandar muchas vezes que sepan
aiàliniaialiniicat, el que manda [para] que sepan muchas vezes
aiàlinialiniimoquis, quien ha mandado de saber muchas vezes
aiàiais, gracioso, bufon
aiaiais, graciosidad
aiuiacat, gracioso
aiaiàmoquis, quien fué gracioso
aiaàlis, componer
aiaàlis, componimiento
aiaàlicat, componedor
aiaalimoquis, quien compuso
aiaàlaiaaliis, componer de nuevo
aiaàlaiaàliis, el componer de nuevo
aiaàlaiaàlicat, el que compone de nuevo
aiàalaiaalimoquis, el que compuso de nuevo
aiaàliniis, mandar que componga
aiaaliniis, el mandar que componga
aiaàlinicat, quien mando que componga
aiaàliniimoquis, quien mando que componese
aiot, ladron
aiànnis, coger muchas cosas a un tiempo
aiànnis, cogedura de muchas cosas
aiànicat, el que coge muchas cosas
aiannimoquis, quien ha cogido muchas cosas
aiannaianniis, coger muchas veces muchas cosas
aiannaianniis, coger muchas veces muchas cosas[10]
aiannaianniis, la cogedura de muchas cosas
aiannaiannicat, quien coge[11]
aiannaiannimoquis, quien ha cogido[11]
aianiaianiis, mandar que cogen
aianiaianiis, el mandar que cogen
aianiaianiicat, quien manda que cogen
aianiaianiimoquis, quien mando que cogessen
aiiis, recibir
aiiis, recibo
aiiicat, quien recibe
aiiimoquis, quien ha recibido
aiaiiis, recibir muchas veces
aiaiis, el recibir muchas veces
aiaiicat, quien muchas veces recibe
aiaiimoquis, quien muchas vezes recibido
aiiiniis, hacer recibir
aiiiniis, el hacer recibir
aiiiniicat, quien hace recebir
aiiinimoquis, quien hizo recibir
aiiinimoquis, quien hizo recibir[10]
ajajot, sabroso
ajis, saborear
ajicat, quien prueba el sabor
ajimoquis, quien ha saboreado
ajajis, saborear muchas vezes
ajis, el saborear

---

[10] Inutile ripetizione a meno che non manchi l'articolo (el saber).

[11] Si deve sottintendere ''muchas cosas.''

ajajis, el saborear muchas veces
ajajicat, quien saborea muchas veces
ajajimoquis, quien ha saboreado muchas veces
ajiniis, hacer saborear[12]
ajiniis, el hacer saborear
ajimicat, quien hace saborear
ajiniimoquis, quien hizo saborear
ahicho, pobre y tambien orfano
aiot, ladron[13]
aiotois, robar
aiotocat, robador
aiotomoquis, quien ha robado
aiotois, el robar
aiotaiotois, quien siempre roba
aiotaiotois, el robar siempre
aiotaiotocat, quien siempre roba
aiotaiotomoquis, quien siempre ha robado
aiotoniis, hacer robar
aiotoniis, el hacer robar
aiotoniicat, quien hace robar
aiotoniimoquis, el que hizo robar
aiotoniaiotoniis, hacer siempre robar
aiotoniaiotoniis, el hacer siempre robar.
aiotoniaiotoniicat, quien hace siempre robar
aiotoniaiotoniimoquis, quien ha hecho siempre robar
añis, dar un golpe abajo la barba
añis, el dar golpe abajo la barba
añicat, quien da golpe abajo la barba
añimoquis, quien dió el golpe abajo la barba
añañis, dar muchas veces el golpe abajo la barba
añañis, el dar golpe muchas veces abajo la barba
añañicat, quien da el golpe muchas veces abajo la barba
añañimoquis, quien dió el golpe muchas veces abajo la barba
añiniis, mandar de dar el golpe abajo la barba
añiniis, el mandar de dar el golpe abajo la barba
añiniicat, quien manda de dar el golpe abajo la barba
añiniimoquis, quien mandó che diese el golpe abajo la barba
añolaj, boracho
añapit, pato
al, pecho
aluiis, mirar arriba
aluiis, el mirar arriba
alùicat, quien mira arriba, astronomo
alùimoquis, quien ha miradó arriba
alùalùis, mirar arriba } muchas veces
alùalùis, el mirar arriba } muchas veces
alùalùicat, quien mira arriba } muchas veces
alùaluimoquis, quien miro arriba } muchas veces
alùiniis, mandar que mire arriba
alùiniis, el mandar que mire arriba
alùiniicat, quien manda que mire arriba
alùiniimoquis, quien hizo mirar arriba
alùinialùiniis, hacer mirar muchas veces arriba
alùiniialùiniis, al hacer mirar muchas veces arriba
alùiniialùiniicat, el hacer mirar muchas veces arriba
alùinialùiniimoquis, quien hizo mirar muchas veces arriba
al-uot, el chico cuervo
alauis, liberal
alauis, liberalidad
alauimoquis, quien fué liberal
anat, hormiga
anămmat, pescado
anò, coiote
anquis, simil
anquis, semejanza
amaiamal, muchacho
ammis, descargar
ammis, descargo
ammicat, quien descarga
ammimoquis, quien descargò
amamis, descarga[r] muchas veces
amamis, el descargar muchas veces
amamicat, quien descarga muchas veces
amamimoquis, quien descargò muchas veces
amminis, hacer descargar
amminiis, el hacer descargar
amminiicat, quien hace descargar
amminiimoquis, quien hizo descargar
amminiamminiis, hacer descargar muchas veces
amminiamminiis, el hacer descargar muchas veces
amminiamminiicat, quien hace descargar muchas veces
amminiamminiimoquis, quien hizo descargar muchas veces
amù, ja *(sic)*[13 bis]. hace tiempo
amuejñai, mañana por la mañana
amulo, adelante, y tambien el primero
amulinis, adelantar
amuliniis, el adelantar
amuliniicat, quien adelanta
amuliniimoquis, quien ha adelantado
amulocat, quien [e]stà adelante
Appache, Appache, una casta de Gente
amoiaj, descansado
appàpais, amplio
aràc, es un sobrenombre de un hombre
aràcquis, rajar, dividir, hender
aràcquis, hendura, rajadura
aràcquicat, quien raja, hende
aràcquimoquis, quien ha rajado
aràcaràcquis, rajar muchas veces
aràcaracquis, el rajar muchas veces
aràcaracquicat, quien raja muchas veces
aràcaràcquimocuis, quien muchas veces ha rajado
aràcquiniaràcquiniis, mandar muchas veces de rajar

---

[12] Queste tre voci sono ripetute due volte certo per errore; il Tac se ne accorse ma non volle cancellarle per non imbrattare li suo manoscritto con degli scarabocchi, ed allora, in margine, accanto alle prime tre, pose la nota "no hai." Riproducendo qui il glossario ho tolto l'inutile ripetizione.

[13] Siccome il Tac non mantiene il rigoroso ordine alfabetico, gli accade spesso, come appunto in questo caso, di ripetere una parola già elencata.

[13 bis] Leggi: *ya*.

aràcquiniaràcquiniis, el mandar muchas veces para que raje
aràcquiniaràcquiniis, el mandar muchas veces para [que] rajen
aràcquiniaràcquiniicat, quien manda muchas veces para que rajen
aràcquiniaràcquiniimoquis, quien ha mandado muchas veces para que rajen
aràcquiniis, mandar para que rajen
aràcquiniis, el mandar para que rajen
aràcquiniicàt, quien manda para que rajen
aràcquiniimoquis, quien ha mandado para que rajassen
aràcajot, rajado
assajis, bañarse
assajis, el bañarse
assajimoquis, bañado
aś, animal
asnis, bañar
asuis, baño
asnicat, quien baña
asnimoquis, quien ha bañado
assassajis, bañarse muchas veces
assassajis, el bañarse muchas veces
assassajimoquis, quien muchas veces se bañò
asnis, bautizar
asnis, bautismo
asnicat, bautizador, el sacerdote
asniimoquis, quien bautizò
asniiasniis, bautizar muchas veces
asuiiasniis, el bautizar muchas veces
asuiiasniicat, quien bautiza muchas veces
asniiasuiimoquis, quien bautizò muchas veces
assun, verdadero
assunop, es verdad
assuot, aguila
atal, ciguena[14]
ataj, personage, hombre estrangero
atcuaiaj, enfermo y tambien muerto
atcuaiaj, muerto
aual, perro
auis, no saber, ignorar
auis, ignorancia
auicat, ignorante
auimoquis, quien fué ignorante
auàuais, dificil, che no se puede aprender
auauis, no saber muchas veces
auauis, el no saber muchas veces
auauicat, quien muchas veces no sabe
auauimoquis, quien no supo muchas veces
auinis, hacer ignorante
auinis, el hacer ignorante
auiniicat, quien hace ignorante
auiniimoquis, quien hizo ignorante
auì, gordo
auis, gordura
auò, otro
auòn, soi otro
auòl, joven
auolvo, grande
áú, cuerno
auoraj, bajado
assariis, rezar
assariis, rezo
assarcat, quien reza
assarmoquis, quien rezò
assarassariis, rezar muchas veces
assarassariis, el rezar muchas veces
assarassarcat, quien m. v. reza
assarassaramoquis, quien ha rezado m. v.
assariuiis, hacer rezar
assariuiis, el hacer rezar
assariuiicat, quien hace rezar
assariniimoquis, quien hizo rezar
a-uis, estar, ser
a-uis, el ser
aucat, quien està
a-uimoquis, quien estubo
aauaauis, estar muchas veces
aauaauis, el estar muchas veces
aauaauicat, quien está muchas veces
et, pié
cai, no
cachiis, torcer la boca
cachiis, el torcer la boca
cachiicat, quien tuerce la bocca [*sic*]
cachicachiis, el torcer muchas veces la boca
cachicachiis, torcer muchas veces la boca
cachicachicat, quien tuerce muchas veces la boca
cachicachiimoquis, quien ha torcido muchas veces la boca
calà, un hombre vicioso, que se hace ver
càliis, poner sobre
caliis, el poner sobre
calicat, quien sobre pone
calimoquis, quien sobre puse
càlcaliis, sobre poner muchas veces
calcaliis, el sobre poner muchas veces
calcalicat, quien sobre pone muchas veces
calcalimoquis, quien sobre puso muchas veces
caliniis, mandar que sobre ponga
caliniis, el mandar que sobre ponga
caliniicat, quien manda que sobre ponga
caliniinioquis, quien manda que sobre pusiese
calajis, montar a caballo
calajis, el montar a caballo
calajicat, quien se monta a caballo
calajimoquis, quien se montò a caballo
calcalajis, montarse muchas veces a caballo
càlcolajis, el montarse muchas veces a caballo
calcalajimoquis, quien se monta a caballo muchas veces
calucluis, una gula que cae
cajàl, cadorniz, y tambien gallina
cajanot, uua cierta yerba, que les sirve para jabón
camais, hijo
camiis, dejar
camiis, el dejar
camicat, quien deja
camiimoquis, quien a dejado
camicamiis, dejar muchas veces
camicamiis, [el] dejar muchas veces
camicamiicat, quien deja muchas veces
camicamiimoquis, quien dejò muchas veces
caminiis, mandar para que deje
caminiis, el mandar para que deje
caminiicat, quien manda para que deje
caminiimoquis, quien ha mandato para que dejasse
camiuicaminiis, mandar muchas veces para que deje
caminicaminicat, quien manda muchas veces para que deje
caminicaminimoquis, quien ha mandado muchas veces para que deje
camùcmuis, amontonado

---

[14] Leggi: *cigüeña.*

cànniis, encontrar
canniis, encuentro
cannicat, quien encuentra
canniimoquis, quien ha encontrado
cancaniis, encontrar muchas veces
cancaniis, el encontrar muchas veces
cancanimoquis, quien muchas veces encuentra
caiauis, lavar
caiauis, lavadura
caiauicat, lavador
caiauimoquis, quien ha lavado
caiaucaiauis, lavar muchas veces
caiaucaiauis, el lavar muchas veces
caiaucaiauicat, quieu lava muchas veces
caiaucaiauimoquis, quien lavó muchas veces
caiauiniis, mandar para que lave
caiàuiniis, el mandar para que lave
caiauiniicat, quien manda para que lave
caiauinimoquis, quien mandó muchas veces para que lavasen
caiauinimoquis, mandar muchas veces para que lave
caiauinicaiauiniis, el maudar muchas veces para que lave
caiauinicaiauiniicat, quien manda muchas veces para que lave
caiauinicaiauiniimoquis, quien mandó muchas veces para que lave
cachicchis, ladeado
camis,[15]
capacpais, corto
cappariis, romper con los dientes
cappariis, el romper con los dientes
capparimoquis, quien ha rompido cou los dientes
capparcappariis, romper muchas veces con los dientes
capparcappariis, el romper muchas veces con los dientes
capparcapparimoquis, quien muchas veces ha rompido con los dientes
cappariniis, hacer romper con los dientes
cappariniis, el hacer romper con los dientes
cappariniimoquis, quien ha hecho romper con los dientes
capparinicappariniis, mandar muchas veces para romper con los dientes
capparinicappariniis, el mandar muchas veces para [que] (sic) romper con los dientes
capparinicapparinimoquis, quien muchas veces ha mandado para romper con los dientes
cappanniis
cappanniis
cappannicat
cappannimoquis
cappancappaniis
cappancappaniis
cappancappanicat
cappancappanimoquis
cariis, alzar una cosa
cariis, el alzar, alzadura
cariicat, quien alza
cariimoquis, quieu ha alzado
caricariis, alzar muchas veces
caricariis, el alzar muchas veces
caricariicat, quien muchas veces alza
caricariimoquis, quien muchas veces ha alzado
cariis, tocar, sonar la campana
cariis, el sonar la campana
carricat, campanero
carrimoquis, quien ha sonado la campana
carcarriis, sonar muchas veces
carcarriis, el sonar muchas veces
carcarricat, quien muchas veces suena
carcarrimoquis, quien muchas veces ha souado
carut, es un animal
cariajis, alzarse
cariajis, el alzarse
cariajimoquis, quien se alzó
caricariajis, alzarse muchas veces
caricariajis, el alzarse muchas veces
caricariajimoquis, quien muchas veces se alzó
cassis, hacer ruido
cassis, ruido
cassimoquis, quien hizo ruido
cascasiis, hacer ruido muchas veces
cascasis, hacer ruido muchas veces
cascasis, el hacer ruido muchas veces
cascarimoquis, quien hizo muchas veces ruido
casiniis, mandar para que haga ruido
casiniis, el mandar para que haga ruido
casiniimoquis, quien ma[n]dó para que hiciesen (ruido)
casal, sobrenombre, nombre proprio
camottis, serar la boca, y tambien callarse
camottis, el serar la boca, silencio
camotticat, silencioso
camottimoquis, quien fué silencioso
camottinis, hacer que se calle
camottiniis, el hacer que se calle
camottiniicat, quien manda para que se calle
camottinimoquis, quien hizo callarse
camottcamottiis, muchas veces callarse
camotcamottiis, el callarse muchas veces
camotcamotticat, quien muchas veces se calla
camotcamottimoquis, quien muchas veces se calló
catiis, roer
catiis, el roer
caticat, quien roe
catimoquis, quien ha roido
catcatiis, roer muchas veces
catcatiis, el roer muchas veces
catcaticat, quien roe muchas veces
catcatimoquis, quien ha roido muchas veces
catiniis, hacer roer
catiniis, el hacer roer
catappiis
catappiis
catappimoquis
cataptatappiis
cataptatappiis
catapcatapimoquis
catappiniis
catappiniis
catappiniis
catappinimoquis
cau-uis
cau-uis
cauimoquis

---

[15] Questo *camis* senza traduzione dev'essere la stessa cosa del *camiis* ''lasciare,'' elencato un momento prima (nei materiali grammaticali *camaìs*). Intorno a questa voce vedi quanto scrissi negli *Atti del XXII Congresso Internazionale degli Americanisti*, vol. 2, p. 546.

[16] Erroneamente scritto *madó.*

caucauis
caucauis
caucauimoquis
cauiniis
cauiniis
cauiniimoquis
cauattis
cauattiis
cauattiicat
cauattimoquis
cauattcauattiis
cauattcauattiis
cauattcauatticat
cauattcauattimoquis
cauattiniis
cauattiniis
cauattiniicat
cauattiniimoquis
cauattajot
caualiis
caualiis
caualicat
caualimoquis
caualcaualiis
caualcaualiis
caualauis
caualcaualicat
caualcaualimoquis
caualiniis
caualiniis
caualiniicat
caualiinimoquis
caualinicaualiniis
caualinicaualiniis
caualinica (sic) *linicat*
caualinicaualiniimoquis
caualajot
cauacuais
cauialuot, cuervo
cauicha, monte
cauis, monte
caquis, hacer la voz del cuervo
caquis, el hacer la voz del cuervo
caquimoquis, quien hizo como la voz del cuervo
caquinis, mandar que haga como la voz del cuervo
caquiniis, el mandar que haga como la voz del cuervo
caquiniimoquis, quien mandó para que hiciese [como la voz del cuervo]
càccaquis, hacer muchas veces la voz del cuervo
càccaquis, el hacer muchas veces la voz del cuervo
càccaquimoquis, quien hizo muchas veces la voz del cuervo
chat, buho
chabiis, despolvorear
chabiis, el despolvorear
chabicat, quien despolvorea
chabimoquis, quien ha despolvoreado
chabchabiis, despolverar [sic] muchas veces
chabchabiis, el despolverear [sic] muchas veces
chabchabicat, quien despolverea [sic] muchas veces
chabchabimoquis, quien muchas veces ha despolvereado [sic]
chabiniis, mandar para que despolveree
chabiniis, el mandar para que despolveree
chabiniicat, quien manda para que despolveree
chabiniimoquis, quien ha mandado para despolverear
chacquis, cortar una parte sola
chàcquis, el cortar una sola parte
chàcquicat, el cortador
chàcquimoquis, quien ha cortado
chàcchaquis, cortar muchas veces
chàcchacquis, el cortar muchas veces
chàcchaquicat, quien muchas veces corta
chàcchaquimoquis, quien muchas veces ha cortado
chàcquiniis, mandar para que corte
chàcquiniis, el mandar para que corte
chàcquiniicat, quien manda para que corte
chàcquiniimoquis, quien ha mandado para que cortase
chàccuis, coger, agarrar
chaccuis, el coger
chaccuicat, quien agarra
chaccuimoquis, quien ha agarrado
chacuchacuis, agarrar muchas veces
chacuchacuis, el agarrar muchas veces
chacuchacuicat, quien agarra muchas veces
chacuchacuimoquis, quien muchas veces ha agarrado
chàcajis, llorar
chàcajis, lloro
chàcajimoquis, quien ha llorado
chàquis, hacer llorar
chaaquis, el hacer llorar
chaquicat, quien hace llorar
chaaquimoquis, quien hizo llorar
chacaiis, el ladear
chacaiimoquis, quien ha ladeado
chacàchaiis, ladear muchas veces
chacàchaiis, el ladear muchas veces
chacàchaimoquis, quien ha ladeado muchas veces
chañilajis, festejar hacer fiesta
chañilajis, festejo
chañilis, hacer fiesta
chañilicat, quien hace fiesta
chañilimoquis, quien hizo fiesta
Chañichñis, Dios
chàñis
chaññis
chaññimoquis
chaññchaññiis
chaññchaññiis
chaññchaññimoquis
chaññiniis
chaññiniis
chaññiniimoquis
chammiis
chammiis
chammimoquis
chamchammiis
chamchammis
chamchammimoquis
chamminiis
chamminiis
chamminiimoquis
chammij, nuestro y nuestra
chappis, acavar (sic) de llover
chappiis, el acavar de llover
chappicat, quien hace parar la lluvia
chappimoquis, el que hizo [parar la lluvia]

chapchapiis[17]
chapchapiis
chapchapicat
chapchapimoquis
chappiniis
chappiniis
chappiniicat
chappiniimoquis
chappàquis, unir
c[h]appaquis, el unir[18]
chappacquicat, quien une
chappacquimoquis, quien ha unido
chappachappacquis, unir muchas veces
chappacchappacquis, el unir muchas veces
chappacchappaquicat, quien ha unido muchas veces[19]
chappacchappaquimoquis, quien muchas veces ha unido
chappacquiniis, mandar para que una
chappacquiniis, el mandar para que una
chappacquimoquicat, quien manda para [que] unan
chappacquimoquimoquis, quien ha mandado para que uniesen
chappacajit, unido
chacquis, agarar
chacquis, el agarar
chacquicat, quien agarra
chacquimoquis, quien ha agarrado
charriis, romper
charriis, el romper
charricat, quien rompe
charrimoquis, quien ha rompido
characharriis, romper muchas veces
characharriis, el romper muchas veces
characharicat, quien rompe muchas veces
charachariimoquis, quien ha rompido muchas veces
charriniis, mandar para que rompa
charriniis, el mandar para que rompa
chariniicat, quien manda para que rompa
chariniimoquis, quien ha mandado para que rompese
charrajot, rompido
chat[20]
chauis[21]
chauis, desechar
chauicat, el que desecha
chauimoquis, quien ha desechado
chauchauis, [desechar muchas veces][22]
chauchauis, el desechar muchas veces
chauchauicat, quien desecha muchas veces
chachauimoquis, quien ha desechado muchas veces
chauiniis, mandar [para] que deseche
chauiniis, el mandar para que deseche
chauiniicat, quien manda [para] que deseche
chauiniimoquis
chauinichauiniis
chauinichauiniis
chauinichauiniimoquis
chauinichauiniicat
chacuot
chauaiis[23]
chauaiis, abrir la palma
chauaiimoquis, quien la ha abierta
chauaichauais, abrirla muchas veces
chauaichauaiis,
chauaichauaiicat
chauaichauaimoquis
chauaiiniis
chauaiiniis
chauaiiniicat
chauaiiniimoquis
chauach, *chauais*
chalat
chalaliis, hacer andar agachado bailando
chalaliis
chalalicat
chalalimoquis
chalalchalaliis
chalalchaliis
chalalchalicat
chalalchalimoquis
chalalajis
chalalajis
chalalajimoquis
chalalchalalajis
chalalchalalajis
chalalchalalajimoquis
chalaquis, despegar
chalaquis
chalaquicat
chalaquimoquis
chalacchalaquis
chalacchalaquis
chalacchalaquicat
chalacchalaquimoquis
chalaquiniis
chalaquiniis
chalaquicat
chalaquimoquis
chalacajis, despegarse
chalacajis
chalacajimoquis
chalacchalacajis

---

[17] La mancanza della traduzione in questo caso non procura nessun danno giacchè si capisce che si tratta del frequentativo del verbo *chappiis*.

[18] Per un evidente distrazione il Tak omise la *h*.

[19] *Chappachappacuicat* è tradotto per una svista "quien ha unido muchas veces;" deve essere corretto in "quien *une* m. v." trattandosi di un participio presente. Cfr. Tagliavini, *La lingua degli Indi Luiseños*, cit. pagg. 27 e 38.

[20] *Chat* senza traduzione. La traduzione è "civetta." Al Tac non venne in mente subito la voce spagnuola *lechuza* che pure aveva usato correttamente nei materiali grammaticali (cfr. Tagliavini, *La Lingua degli Indi Luiseños*, ecc. p. 19 (e traduzione latina "noctua" p. 16)).

[21] *chauis* senza traduzione. Doveva essere "desechar" e dinanzi al seguente "el desechar."

[22] Ho creduto necessario sostituire con questa traduzione messa fra parentesi quadre, la versione errata del testo. Ivi si legge, certo per una distrazione "quien muchas veces desecha," traduzione che si addice invece alla voce *chauchauicat*.

[23] *chauais* Aggiungi "abrir la palma" e dinanzi alla voce seguente leggi "el abrir la palma."

chalacchalacajis
chalacchalacajimoquis
chapiis
chapiis
chapchapiis
chapchapiis
chapiniis
chapiniis
chapiniicat
chapiniimoquis
chapinichapiniis
chapinichapiniis
chapiniichapicat
chapinichapiniimoquis
chapàquis, unir
chèbiis, reventar, contar
chèbiis, el reventar
chebimoquis,[24] quien ha reventado
chèbiniis, hacer reventar
chèbiniis, el hacer reventar
chebiniimoquis, el que hizo reventar
chèbchebiis, reventar muchas veces
chèbchebiis, el reventar muchas veces
chèbchebimoquis, quien ha reventado muchas veces
chebinichebiniis, hacer reventar muchas veces
chebinichebiniis, el hacer reventar muchas veces
chebinichebiniimoquis,. quien hizo muchas vecer reventar[25]
chabajis, reventarse
chabajis, el reventarse
chabajimoquis, el que se ha reventado
chebchebajis, reventarse muchas veces
chebchebajis, el reventarse muchas veces
chebchebajimoquis, el que se reventò muchas veces
cheic, daca, dà acà[26]
cheiat, es cosa que ponen en la cabeza para bailar, echa toda de plumas[27]
cheiis, vestir de esta cosa para bailar
cheiis, el vestir
cheiicat, quien veste
cheiimoquis, quien ha vestido
cheicheiis, vestir muchas veces
cheicheiis, el vestir muchas veces
cheicheiicat, quien veste muchas veces
cheicheiimoquis, quien ha vestido muchas veces
cheiajis, vestirse
cheiajis, el vestirse
cheiajimoquis, quien se ha v[est]ido
cheicheiajis, vestirse muchas veces
cheicheiajimoquis, quien muchas veces se ha vestido
cheeniis, trasquilar, cortar
cheeniis, trasquiladura
cheeniicat, trasquilador
cheeniimoquis, quien ha trasquilado
cheencheeniis, trasquilar muchas veces
cheencheeniis, el trasquilar muchas veces
cheencheeniicat, quien trasquila muchas veces
cheencheeniimoquis, quien ha trasquilado muchas veces
cheliis, empujar
cheliis, empujè
chelimoquis, quien ha empujado
chelcheliis, empujar muchas veces
chelchelimoquis, quien ha empujado muchas veces
cheliniis, hacer que empuje
cheliniis, el hacer que empuje
cheliniimoquis, quien ha hecho empujar
chepiis, dar fuego a una casa
chepiis, el dar fuego
chepicat, quien da fuego
chepimoquis, quien ha dado fuego
chepchepiis, dar muchas veces fuego
chepchepiis, el dar muchas veces [fuego]
chepchepicat, quien da muchas veces [fuego]
chepchepimoquis, quien da muchas veces [fuego][28]
chepiniis, hacer dar fuego
chepiniis, el hacer dar fuego
chepiniimoquis, quien hace dar fuego
chepèquis, pegar
chepèquis, el pegar
cheqepuicat, quien pega
chepequimoquis, quien ha pegado
chepeqchepequis, pegar muchas veces
chepeqchepequis, el pegar muchas veces
chepeqchepequicat, quien pega muchas veces
chepeqchepequimoquis, quien ha pegado muchas veces
chepequiniis, hacer pagar muchas veces
chepequiniis, el hacer pegar muchas veces
chepequiniicat, quien hace pegar muchas veces
chepequiniimoquis, quien ha pegado muchas veces
chepequinichepequiniis, hacer pagar muchas veces
chepequinichepequiniis, el hacer pagar muchas veces
chepequinichepequiniimoquis, quien hizo pegar muchas veces
chejñais, lado
chiuis, vencer
chiuis, victoria
chiuicat, victorioso
chiuimo[*quis*], quien ha vencido[29]

---

[24] Nel testo si legge: *chebimoquisn* come correzione di un precedente *chebimoquien.* Il Tak ha dimenticato di cancellare la *n* che qui non ha nulla a che fare.

[25] Nel testo si legge "Quien ha hizo muchas veces reventar" ove *hizo muchas* figura come correzione di un precedente *mandado.* Per dimenticanza la voce *ha* non fu cancellata. Ho creduto però necessario espellerla.

[26] La forma corretta *dà acà* è aggiunta di mano del Cardinale Mezzofanti.

[27] Il Tak, come già nel manoscritto della parte storico-etnografica, si è divertito ad aggiungere qualche schizzo. Qui ha posto un disegno piccolissimo di due o tre penne.

[28] In questa voce e nelle due precedenti ho aggiunto alla traduzione la parola "fuego" che il Tak intendeva certo sottintendere.

[29] Nel testo si legge *chiuimo* che, per quanto io so, non ha significato. Ho la certezza che si tratti di una distrazione, d'un lapsus calami insomma, in luogo del regolare *chiuimoquis.* Mi permetto perciò di restituire la forma che io reputo corretta, indicando la parte aggiunta, come sempre fra parentesi quadre.

chiuichiuis, vencer muchas veces
chiuichiuis, el vencer muchas veces
chiuchiuicat, quien vence muchas veces
chiuchiuimoquis, quien ha vencido muchas veces
chiuiniis, hacer vencer
chiuiniis, el hacer vencer
chiuiniicat, quien hace vencer
chiuiniimoquis, quien hizo vencer
chidiis, sonar un strumento para que bailen
chidicat, quien toca
chidiis, el instrumiento
chidiis, el sonar
chidicat, el sonador
chidimoquis, quien ha sonado
chidchidiis, sonar muchas veces
chidchidiis, el sonar muchas veces
chidchidicat, quien sona muchas veces
chidchidimoquis, quien ha sonado muchas veces
chidiniis, mandar que suene
chidiniis, el mandar sonar [sic]
chidiniimoquis, quien ha mandado
chilcuat, vaso (es echo con ciertas yerbas y les sirve para beber agua y otras cosas liquidas)
chiliis, rociar
chiliis, el rociar
chilicat, quien rocia
[*chiliquimoquis*] *chilimoquis,* quien ha roceado[30]
chiliniis, mandar para que rocee
chiliniis, el mandar para que rocee
chiliniimocuis, quien ha mandado para que rocease
chilchiliis, rocear muchas veces
chilchiliis, el rocear muchas veces
chilchilimocuis, quien muchas veces ha roceado
chiliqquis, desgranar
chilicquicat, quien desgrana
chiliquimocuis, quien ha desgranado
chilichilicquiis, desgranar pronto
chilicchilicquiis, el desgranar pronto
chilicchilicquimocuis, quien ha desgranado pronto
chilicquiniis, hacer desgranar
chilicquiniis, el hacer desgranar
chilicquiniicat, quien hace desgranar
chilicquimoquis, quien hizo desgranar
chicquis, partir
chicquis, el partir
chicquicat, quien hace partes
chicquimoquis, quien hizo partes
chicchiquis, partir muchas veces
chicchiquis, el partir muchas veces
chicchiquimoquis, quien ha partido muchas veces
chiquiniis, hacer partir
chiquiniis, el hacer partir
chiquiniimoquis, quien hizo partir
chippiis, quebrar
chippiis, el quebrar
chippimocuis, quien ha quebrado
chippiniis, hacer quebrar
chippiniis, el hacer quebrar
chippiniimocuis, quien hizo quebrar
chippchippiis, quebrar muchas veces
chippchippiis, el quebrar muchas veces
chippchippiimocuis, quien ha quebrado muchas veces
chippilippis, hacer todo en pedazos
chippilippiis, el hacer todo en pedazos
chippilippimocuis, quien hizo [todo] en pedazos
chippajis, quebrarse
chippajis, el quebrarse
chippajimocuis, lo que se quebrò
chippchippajis, quebrarse muchas veces
chippchippajis, el quebrarse muchas veces
chippchippajimocuis, lo que muchas veces se quebrò
chicaajis, arrodillarse
chicaajis, el arrodillarse
chicaajimocuis, arrodillado
chicaachicaajis, arrodillarse muchas veces
chicaachicaajis, el arrodillarse muchas veces
chicaachicaajimocuis, quien se ha arrodillado muchas veces[31]
chicais, arrodillar
chicais, el arrodillar
chicaimocuis, quien ha arrodillado
chicàchicais, arrodillar muchas veces
chicachicais, el arrodillar muchas veces
chicachicaimocuis, quien ha arrodillado muchas veces
chicachacquis, hacer arrodillar
chicachacquis, el hacer arrodillar
chicachacquimocuis, quien hizo arrodillar
chicalaajis
chicalaajis
chicalaajimocuis
chicalàchicalaajis
chicalàchicalaajis
chicalàchicalaajimocuis
chicalais
chicalais
chicalaimocuis
chittis[32]
chittis
chittimocuis
chittiniis
chittiniis
chittiniis
chittiniimocuis
chitchittiis
chitchittiis
chitchitimocuis
chiuuis, vencer, ganar
chiuuis, victoria, ganancia
chiuuicat, vencedor
chiuuimocuis, quien ha vencido
chiuuiniis, hacer que venza
chiuiniis, el hacer vencer
chiuuiniicat, quien hace vencer
chiuuimocuis, quien hizo vencer
chiuchiuuis, vencer muchas veces
chiuchiuuis, el vencer muchas veces

---

[30] La prima forma è semi cancellata e si deve espellere. È certo errata.

[31] In margine, accanto a queste forme, sta scritto trasversalmente la voce verbale *chicaachacchicaacajis,* senza traduzione.

[32] Per distrazione il Tac ha scritto in questa forma (e solo in questa!) *cittis.* Restituisco l'esatto *chittis.*

choccajot, cargado
choon, todo
chocquis, cargar
chocquis, el cargar
chocquicat, quien carga
chocquimoquis, quien ha cargado
chocquiniis, hacer cargar
chocquiniis, el hacer cargar
chocquiniicat, quien hace cargar
chocquiniimocuis, quien hizo cargar
chocchoquis, cargar
chocchoquis, el cargar
chocchoquicat, quien carga
chocchoquimocuis, quien ha cargado
chorquilais, lugar endonde se juega alla rueda; billardo[33]
chorriis
chorriis
chorrmocuis
chorchoriis
chorchoriis
chorchorimocuis
choriniis
choriniis
choriiniimocuis
choròiis, medir
choròiis, el medir
choròiicat, quien mide, geometra
choroquilais, barra, geometria
choròimocuis, quien ha medido
choròiniis, hacer medir
choròiniis, el hacer medir
choròiniimocuis, quien hizo medir
choròchoròis, medir muchas veces
choròchoròis, el medir muchas veces
choròchoròimocuis, quien ha medido
chori-iis, cortar
chor-iis, el cortar
chor-imocuis, quien ha cortado
chor-chor-iis, cortar muchas veces
chor-chor-iis, el cortar muchas veces
chor-chor-imocuis, quien ha cortado muchas veces
chorrajis, ir como la rueda
chorrajis
chorrajimocuis
chorchorrajis
chorchorajis, ir como la rueda
chorchorajimocuis
choon, todo
choruot, animal del agua que corta [sic]
chojajis, aparecerse
chojajis, aparecimiento
chojajimocuis, aparecido
chojchojajiis, aparecer muchas veces
chojchojajis, el aparecer muchas veces
chojchojajimocuis, quien es aparecido muchas veces
chojiniis, hacer que aparezca
chojiniis, el hacer que aparesca
chojiniimocuis, quien hizo que apareciese
chojinichojiniis, hacer muchas veces aparecer
chojinichojiniimocuis, quien hizo muchas veces que apareciese
chojis, hacer que aparezca
chojis, el hacer que aparezca
chojicat, quien hace aparecer[34]
chojimocuis, quien hizo que apareciese
chocorrajot
chocorris, hacer como monte (?)
chocorris
chocorrimocuis
chocorchocorris
chocorchocorris
chocorcho[cor]rimocuis
chorrajot, redondo
chuñis, mamar
chuñis, el mamar
chuñicat, quien mama
chuñimocuis, quien ha mamado
cuñchuñis, mamar muchas veces
chuñchuñis, el mamar muchas veces
chuñnchuñimocuis, quien ha maamado muchas veces
chuññiniis, hacer que mame
chuññiniis, el hacer que mame
chuññiniimocuis, quien hizo para que mamase
chujis, escupir
chùjis, gargajo
chujimocuis, quien ha escupido
chujchujis, escupir muchas veces
chujchujis, el escupir muchas veces
chujchujmocuis, quien ha escupido muchas veces
chujiniis, hacer que escupa
chujiniis, el hace que escupa
chuppiis
chuppiis
chuppimocuis
chupchuppiis
chupchuppiis
chupchuppimocuis
chuppiniis
chuppiniis
chuppiniimocuis
chupuis, cerar los ojos
chupuis, el cerar los ojos
chupùimocuis, quien ha cerado los ojos
chupùchupuis, cerar muchas veces los ojos
chupùchupuis, el cerar muchas veces los ojos
chupùchupùimocuis, quien ha cerado muchas veces los ojos
chupùajis, el cerrarse dellos ojos
churrajis ir abajo
churrajis
churrajimocus
churchurrajis
churchurrajis
churchurrajimocuis
churris, echar algo de arriba
churris
churris
churiimocuis
churchurris
churchuris
churchurimocuis
churiniis
churiniis
churiniis
churiniimocuis
churecquis, quitar el hilo al arco
churecquis
churecquimocuis

---

[33] Segue il disegno di una palla (v. nota 18).

[34] Corretto in ''quien hace que apareciese'' senza cancellare il testo primitivo che io credo più corretto e che perciò riproduco.

churecchurecquis
churecchurecquis
churecchurecquimocuis
churecquiniis
churecquiniis
churecquiniimocuis
chureccajot
chuiis, quemar
chuiis, el quemar
chuiimocuis, quien ha quemado
chuichuiis
chuichuiis
chuichuiis
chuichumocuis
chuiniis
chuiniis
chuiiniimocuis
chuiajis, quemarse
chuiajis
chuiajimocuis
chuichuiajis
chuichuiajis
chuichuiajimocuis
chuiajot, quemado
cobbajis, caerse
cobbajis
cobbajimouiuiom (?)[35]
cobbhobbajis
cobbebajis
cob̀cobajimociom (?)[35]
cobbis, hacer caer
cobbiis,
cobbiis,
cobbimocuis
cobbiniis, mandar que alcuno haga caer
cobbiniis,
cobbiniimocuis
cobcobbiis, hacer caer muchas veces
cobcobiis, el hacer caer muchas veces
còis, morder
còis, el morder
còimocuis, quien ha mordido
còocòis, morder muchas veces
còocòis, el morder muchas veces
còocòimocuis, quien ha mordido muchas veces
còiniis, hacer que muerda
còiiniis, el hacer que muerda
còiniimocuis, quien hizo morder
coiniconiis, hacer que muchas veces muerda
coiniconis, el hacer que muchas veces muerda[36]
coinicoiniimocuis, quien hizo que muchas veces mordiese
còchis, cocer
còchis, el cocer
còchicat, quien coce
còchimocuis, quien ha cozido
còchcochis, cocer muchas veces
còchcachis, el cocer muchas veces
còchcochimocuis, quien muchas veces ha cocido
còchiniis, hacer cocer
còchiniis, el hacer cocer
còchiniimocuis, quien hizo cocer
colauot, palo
colauquis
colauquis, traher madera
colauquicat
colauquimocuis
colanuiniis
colanuiniis
colàuiniimocuis
cōlajis
colajis
còlajimocuis
colcolajis
colcolajis
colcolajimocuis
coliis, hacer caer lagrimas de los ojos por el hume
coliis
colimocuis
colimocuis
coliniis
coliniis
coliniimocuis
colcoliis
colcoliis
coionot, ballena[37]
conòcnois, verde
conniis
conniis
connimocuis
conconnis
conconnis
conconnimocuis
cononis, hacer que sea verde
cononis, el hacer que sea verde (sic)
cononimocuis, quien hizo que fuesse verde
cononcononiis, hacer muchas veces que sea verde
cononcononiis, el hacer muchas veces que sea verde
cononcononimocuis, quien hizo muchas veces que fuesse verde
comale, pizarra
corrorajis, levantarse
corrorajis
corrorajimoquis (sic)
coppiis, golperear la cabeza
coppiis
coppimocuis
coppimocuis
copcoppiis
copcoppiis
copcoppimocuis
coppiniis
coppiniis
coppiniimocuis
coppajis
coppajis, golpear la cabeza
coppajimocuis
corrorcorrorajis
corrorcorrorajis
corrorcorrorajimocuis

---

[35] Perchè il Tak scriva qui *cobbajimouiuiom* e *cobcobajimociom* è cosa che io non riesco a capire. Probabilmente la finale deve leggersi *–cuichom* e ritenersi un plurale del participio passato per cui vedi Tagliavini, *La Lingua degli Indi Luiseños,* ecc. 34. Ma perchè qui solo la forma del plurale?

[36] Nel testo per un evidente svista leggesi *coiniinis.*

[37] Cfr. *Atti del XXII Congresso Internazionale degli Americanisti,* cit. vol. II, p. 547.

cossajot, dulce
cosis, endulzar
cosis
cosimocuis
coscosis
coscosis
coscosimocuis
cosiniis
cosiniis
cossiniimocuis
cubatis, limpiar
cubatis
cubaticat
cubatimocuis
cubiis, limpiar
cubiis
cubimocuis
cubatiniis
cubatiniis
cubatiniimocuis
cubcubis
cubcubis
cubcubinimocuis
cubatcubatiis
cubatcubatimocuis
cuijiis
cuijiis
cujisnacuis
cujcujis
cujcujis
cujcujimocuis
cùiis
cùiis
cùimocuis
cùicuiis
cuicuimocuis
cuicuiis
cuicuiis
cuicuiniimocuis
cuñajot
cuñis, esposo
cuña, en el fuego
cuñauis, del fuego
culaclais, hombre sin verguenza
culajot, sacada
culiis, sacar
culiis, el sacar
culimocuis
culuculiis
culuculiis
culuculamocuis
culiniis
culiniis
culiniimocuis
culajis, sacarse
culajis, el sacarse
culajimocuis, quien ha sacado
cuaat, mosca, gusano
cualmais, debajo el brazo
cupuajis, dormir
cupuajis, el dormir
cupuajimocuis, quien ha dormido
cupùcupùajis, dormir muchas veces
cupùcupùajis, el dormir muchas veces
cupuis, hacer que duerma
cupuis, el hacer que duerma
cupùimocuis, quien hizo dormir
cupùcupùis, hacer muchas veces dormir
cupùcupùis, el hacer muchas veces dormir
cupùcupùimocuis, quien hizo muchas veces dormir.

R. UNIVERSITÁ DI BOLOGNA
ITALIA

UN VOCABULARIO CHICHIMECA

POR P. GONZÁLEZ CASANOVA

¿HA existido una lengua chichimeca?

Y, si es así, ¿existe todavía?

No se podría contestar a la segunda pregunta sin haberlo hecho antes a la primera que nuestra historia responde identificándola indistintamente con las lenguas azteca y otomí o aplicando dicho nombre como común a los idiomas de las tribus bárbaras en general, fundándose para ésto en el dicho de Clavijero o de Veytia, únicos entre los modernos—nos dice Pimentel—que se han ocupado seriamente en dar a conocer nuestra historia antigua y cuya opinión, de consiguiente, todos siguen.[1]

Me abstendré de entrar al terreno especulativo y en vez de plantear nuevas hipótesis y aventurar conjeturas más o menos bien o mal fundadas en la lógica, me concretaré a acudir a las fuentes pristinas de nuestra historia y de preferencia a los documentos de mero carácter informativo, apuntando enseguida las opiniones de diversos autores modernos, entre los más autorizados, que han abordado la discusión de este punto con abundancia de eruditos argumentos en pro o en contra, según el punto de vista en que se colocan. Lamento no poder contar entre estos últimos al sabio jesuíta, P. A. Gerste, quien publicó allá por el año de 1891, una monografía especial sobre esta materia con el título de *La Langue des Chichimèques*, en la *Revue des Questions Scientifiques*, de Bruselas, porque no he podido haberla e ignoro las conclusiones a que habrá llegado.

En la preciosa colección de documentos del siglo XVI que, con el título general de *Papeles de Nueva España,* dió a la estampa el sabio mexicanista don Francisco del Paso y Troncoso, escogeré algunos pasajes en que se hace referencia especial o incidental a la lengua chichimeca.

Importa advertir, desde luego, que no andan muy de acuerdo los autores de los informes rendidos a la Real Corona de España, de suerte que no podrán sacarnos de duda de una manera contundente respecto a este punto. Algunos, dan el nombre de lengua chichimeca a la mexicana; otros, a la otomí y no faltan quienes nos hablen de una lengua chichimeca como extraña a las dos primeras o aplican tal denominación a diversas lenguas como nombre común genérico.

Nos hablan de la lengua chichimeca considerándola la misma que la mexicana, aunque diferente en parte, los siguientes pasajes:—

En el tomo IV: ''Dizen que toda esta tierra fue de chichimecas y que la lengua que hablauan era mexicana, corruta y disfraçada'' (p. 234). ''. . . dizen los principales y ancianos del pueblo que ellos descienden de chichimecas, y asi la lengua que hablan es mexicana corrompida y disfrazada'' (p. 238). ''. . . y los yndios dicen que proceden de chichimecas y hablan la lengua mexicana, corrompida e disfrazada'' (p. 243). ''. . . dizen los indios que descienden de chichimecas, y la lengua que hablan es mexicana corrompida y disfrazada'' (p. 248).

---

[1] Pimentel, *op. omn.,* vol. I, p. 12.

De manera precisa, que no deja lugar a duda, se identifica la lengua chichimeca como otomí, que es la opinión más corriente entre nosotros, en el siguiente pasaje del tomo V, de la obra citada, página 163:—

> “. . . y todos los deste pueblo son lengua otomy, que por otro nombre son chichimecas.”

Más numerosos, con todo, son aquellos pasajes en que se habla de la lengua chichimeca como distinta de la otomí y de la mexicana. Así, por ejemplo, en el tomo VI, página 3:—

> “. . . hablan dos suertes de lenguas, chichimeca y otomit, y al que sale ladino dellos es en la lengua mexicana ques la general desta tierra y a ese llaman ladino en la habla.”

En la página 42:—

> “. . . y estos antiguos pobladores hablauan la lengua que dizen chichimeca, diferente de la mexicana y otomy, la qual lengua no se vsa ni habla el dia de oy; y esta lengua chichimeca la usaron muchos años y tiempos hasta que llegaron a esta tierra a poblar los yndios culhua y mecitis, que son los mexicanos, con cuya llegada deprendieron la lengua mexicana que es la que oy dia se habla generalmente.”

En la página 66:—

> “. . . estos caciques y gente hablaban la lengua chichimeca y la mexicana, por ser procedientes de los culhuas y mecitis, que son los mexicanos que es la lengua que se habla generalmente oy dia.”

Con más claridad, en la página 80:—

> “. . . la lengua que antiguamente hablaban era la que llaman chichimeca, la qual no se hvsa ni habla el dia de oy, sino la mexicana, y quando se fundo este pueblo . . . ,” etc.

Y, por último, en la página 294:—

> “. . . y que en toda la provincia ay tres lenguas: la prencipal mexicana y la otra otomy y la otra chichimeca, y la que mas vsan es la mexicana.”

Basta con las citas anteriores para darse cuenta de la diversidad de opiniones que encontramos aun en los documentos de carácter informativo del siglo XVI, que no cabría en justicia considerar interesados en tergiversar los hechos sobre cuestión tan baladí como debió ser para ellos que a una u otra lengua se diese el nombre de chichimeca ya fuese la mexicana, ya la otomí o ya una tercera, diferente de ambas. Mas aunque desde luego se advierte la diversidad de acepciones del nombre chichimeca según los diferentes autores que lo usan, no me atreveré por ahora a llegar a ninguna conclusión, hasta que logre dar cima a la investigación que tengo emprendida sobre la geografía lingüística histórica de México, que permitirá ilustrar este y otros puntos dudosos.

Entre la documentación de esa época, sin duda la m'as interesante para mi objeto, por cuanto abarca el lugar de procedencia de mi vocabulario, es la publicada en 1897, por don Primo Feliciano Velázquez, bajor el título de *Colección de Documentos para la Historia de San Luis Potosí.* En los documentos que trae del siglo XVI, se habla en diferentes pasajes de los indios chichimecas y aunque se nombran varias lenguas de la región, no se hace mención particular de una chichimeca. Por ejemplo:—

> “. . . y assi mesmo save este declarante que tiene esta provincia muchos religiosos que saven las lenguas Mexicana, Tepehuana, Guachichila, Otomí, Tarasca y otras que vsan entre los yndios de esta tierra. . . .” (p. 142.)

Y, más adelante, en la misma página:—

> ''. . . que tendrán los Religiosos de esta Provincia el dia de oy a su administracion y doctrina mas de catorce mil indios, no entrando en este número la multitud de chichimecos que estan comarcanos con las conversiones con los cuales por diligencia y solicitud de nuestros Religiosos se van convirtiendo muchos a la fee. . . .''

Y también en la página 147:—

> ''. . . como el del Venado de Yndios Guachichiles, San Miguel Mesquitic, San Luis Potosí, Santa María, Sierra de Pinos, Tlascalilla y que assi mesmo save se han fundado entre los Chichimecos Tepecanos en una sierra áspera donde padecen immensos trabajos los religiosos que los administran. . . .'' ''. . . que save que en esta provincia ay ministros idoneos que administran a los naturales en lengua mexicana, tarasca, otomí, tepecana, tepehuana y concha, que son las necesarias en ella y que en ellas se confiesan y predican sin que aya falta en ningun convento . . . ,'' etc.

¿Debe incluïrse entre las lenguas mencionadas la de los chichimecas, debiendo considerarse cualquiera de ellas como tal?

El siguiente pasaje, a continuación, sugiere alguna duda.

> ''A la octava pregunta—se lee—dixo este declarante que le parecia que tendran todas las doctrinas de esta Provincia como doce a catorce mil yndios *no entrando los que estan comarcanos a mas doctrinas que es grandísimo número de chichimecos* de los quales cada dia van los religiosos convirtiendo . . . ,'' etc.

¿Qué sacamos en limpio del examen de los pasajes anteriores?

¿Con qué fundamento válido podríamos rechazar la opinión de unos y aceptar la de otros?

Sus autores todos escribieron en la misma época; todos acudieron a la fuente indígena en busca de información; ninguno tenía razón o motivo alguno para consignar sobre el punto que nos interesa, hechos tergiversados para servir a un propósito determinado.

¿A qué obedece, entonces, la contradicción aparente y real que comprobamos en sus diferentes dichos?

No es difícil advertir, a poco que se examinen opiniones tan contradictorias en algunos casos, que los autores que nos hablan de una lengua chichimeca como distinta de la mexicana y otomí, nos dicen que estos dos últimos idiomas se hablan en la región de que tratan, simultáneamente con la lengua chichimeca o que ésta ha desaparecido. Por consiguiente, establecen una diferencia comprobada por su experiencia personal, de visu, o por sus informantes.

En cambio, los que nos hablan de la lengua chichimeca como ''mexicana o corruptela de la misma'' o ''mexicana corrompida y disfraçada,'' lo hacen de individuos de esta tribu, que se servían, indudablemente, de la lengua mexicana—algún dialecto o ''Mundart,'' probablemente menos pulida que la hablada en el Valle de México y en Tezcoco, si se quiere, pero mexicana de todos modos, y cuyos sujetos se envanecían de ser descendientes de los antiguous chichimecas, tenidos por ser los primeros pobladores, a título de orgullo racial y que a sus ojos debía garantizar, por su antigüedad, la libre posesión de la tierra que ocupaban, como se desprende de la relación de Ixtlixochitl, que con fundamento o sin él, da a los monarcas de México una genealogía chichimeca.

Por otra parte, hoy todavía se puede comprobar en más de un pueblo de indios, que el indígena se explica las diferencias lingüísticas como un hecho volitivo, dependiente de la voluntad, atribuyéndolo al deseo de disfrazar el pensamiento y que los demás no aciertén a entender lo que se habla y también que por esa mal entendida modestia que tanto alababa el autor de *Las Virtudes del Indio,* considera su propia lengua como corrompida y adulterada, si se compara con la de algún pueblecillo lejano o la de los antepasados.

En lo que toca a los autores de las relaciones de San Luis Potosí, aunque uno de ellos dice expresamente: "chichimecos tepecanos," prestándole así al nombre "chichimecos" la acepción de salvajes o bárbaros que adquirió posteriormente, como explica Ixtlixochitl; cuando entra a hacer la enumeración de varios idiomas no es extraño que omita mencionar entre ellos el chichimeca, puesto que siempre que se alude a esta tribu se hace tratándolos de "indios comarcanos" y "no reducidos a la fe," por que queda excluido que pudiera referirise a su lengua cuando hablà de los idiomas de la región.

Además, en la página 28 de la obra citada, ocurre el pasaje siguiente que, al parecer, corrobora lo anterior:—

> ". . . ay entre estos algunos yndios de la generación de los chichimecos que están de paz y acuden a la doctrina. Téngola por generación tan impía y maldita por las causas que arriba he dicho que aunque se han convertido no se ha podido hacer de ellos cosa buena y *cierto que ha sido la causa que hasta hoy no ha habido mas de dos sacerdotes que hayan entendido su lengua,* el uno Juan Sánchez de Alanís, ya difunto, y el otro un fraile de San Francisco que se llama fray Juan Maldonado, que hoy vive."

Así, pues, si reparamos en que el autor enumera más adelante las lenguas habladas en el contorno y omite hacerlo con la chichimeca, debemos explicarnos tal omisión—en vez de concluir que no existía lengua de ese nombre—por el hecho de que sólo habla de las que eran familiares a los misioneros, puesto que es el punto de la información solicitada a que contesta expresamente, refiriéndose a los indios convertidos a la fe y a cargo de los religiosos, con exclusión de los chichimecas que no se hallaban en idénticas condiciones.

Tales observaciones, a mi juicio, nos llevan a la conclusión de que las contradicciones que encontramos en las relaciones del siglo XVI y la confusión que se advierte desde entonces en el empleo adecuado del nombre chichimeca aplicado a una lengua o a varias, no son obstáculo valedero para admitir la existencia de ésta y menos aún podrían tomarse como pruebas en contrario.

No cabe traer aquí a examen el dicho de cronistas y biógrafos contemporáneos de los autores de las relaciones y de otros escritores no menos autorizados y fidedignos, pues aunque sobre este punto advertimos en ellos a menudo las mismas contradicciones y confusión, ya han sido objeto de detenida crítica, entre otros por Pimentel, Thomas, y Lehmann. Pecaría por prolijo y habría de entrar en disquisiciones interminables y en una discusión inútil si pretendiese poner de acuerdo a los diversos autores. Basta para mi objeto recordar que autoridades como son Fray Gerónimo de Mendieta;[2] Ixtlixochitl;[3] Camargo;[4] Pomar,[5] etc., nos hablan de una lengua chichimeca.

¿Cuál es ésta?

He aquí la segunda parte del problema.

Don Francisco Pimentel, que en un principio se contentara con considerarla como "un idioma diferente, hoy desconocido,"[6] más tarde, se inclinaba a identificarla con el Pame y a admitir su relación con la familia otomí, apuntada antes por Clavijero.[7]

---

[2] *Historia Eclesiástica Indiana,* p. 144, et passim.

[3] *Historia Chichimeca,* p. 43, et passim.

[4] *Historia de Tlaxcala,* p. 28.

[5] Relacion de Tezcoco in *Nueva Col. Documentos para la Historia de México,* pp. 4–5.

Thomas, aunque no llega a ninguna conclusión especial en cuanto al idioma chichimeca, comprende en su familia Nahuatlana los diversos idiomas que, por una u otra circunstancia, han recibido aquel nombre.[8]

Lehmann, tras una crítica minuciosa de las fuentes históricas, llega a la conclusión de que se trata de un idioma aparte, que por falta de material lingüístico es difícil determinar cual sea ("Da die gennannten Quellen die chichimekische Sprache vom Otomi sondern, muss mit dem Chichimekischen eine besondere Sprache gemeint sein, die aus Mangel an Sprachmaterial schwer zu bestimmen ist"); y cree que pudieran encontrarse restos del mismo en la lengua pame, que se habla en San Luis Potosi.[9]

A mi juicio, convendría aplicar el nombre de idioma chichimeca, que tan diversa suerte ha corrido hasta aquí, como le corresponde geográficamente al hablado en la Misión de Chichimecas, San Luis de la Paz, Estado de Guanajuato, México. Y, además de geográfica, lingüísticamente también, porque según resulta de las comparaciones con diversos idiomas de México, aunque insuficientes sin duda, por lo reducido del vocabulario reunido por mi y por la limitación a la comparación léxica, sólo tiene en común con los idiomas otomí y huichol semejanzas léxicas incidentales, fácilmente explicables por la vecindad y comercio de pames y huicholes, o coras o tepecanos.

El estudio de clasificación histórica de dicho idioma reclamaría un material más extenso.

Aunque Beristain cita *Arte dela Lengua Chichimeca, Diccionario de la misma y Catecismo en la misma,* escritos por el P. Diego Díaz Pangua, no he logrado tener más noticia de ellos que la que traen las bibliografías.[10]

En cambio, en la Quinta Parte, Sección Primera, de la *Bibliografía Mexicana del Siglo XVIII,* por el Dr. Nicolás León, en el Apéndice (pp. 451–512), encuentro reproducido el curioso y rarísimo "*Manual para Administrar los Santos Sacramentos de Penitencia, Eucharistia, Extre ma-Unción, y Matrimonio. Dar Gracias Despues de Comulgar, y Ayudar a Bien Morir a los Indios de las Naciones: Pajalates, Orejones, Pacaos, Pacóas, Tilijayas, Alasapas, Pausanes, y otras muchas diferentes, que se hallan en las Missiones del Rio de San Antonio y Rio Grande, pertenecientes a el Colegio de la Santisima Cruz de la Ciudad de Querétaro, como son: Los Pacuaches, Mescales, Pampopas, Tacames, Chayopines, Venados, Pamaques, y toda la Juventud de Pihuiques, Borrados, Sanipaos, y Manos de Perro.* Compuesto por el P. Fr. Bartholome García, Predicador Apostólico, y actual Missionero de la Mission de N. S. P. S. Francisco de dicho Colegio, y Río de San Antonio, en la Provincia de Texas. Impresso. . . ." etc.

---

[6] *Op. omn.*, t. I, p. 12.

[7] *Ibid.*, t. II, pp. 424 y siguientes.

[8] Thomas, Cyrus, Indian Languages of Mexico and Central America, *Bulletin 44, Bureau of American Ethnology,* Washington, 1911, pp. 40 y siguientes.

[9] Cf. Lehmann, Walter, *Zentral Amerika. I Teil, Die Sprachen Zentral-Amerikas, Bd. II.*

[10] Pilling, 2888.

A tal diversidad de indios, que se extienden desde el corazón de México hasta el territorio norteamericano adentro, cuál o cuales lenguas corresponden en la larga lista de nombres de los idiomas vernáculos?

El de lengua chichimeca, según se declara en uno de los pareceres.

> “Aun mucho más ardua es la traducción referida—se dice en la página 456—, si se hace de una lengua que es abundante de vozes en otra menos copiosa, como lo demuestra el M. R. P. Mro. Feijó con aquella energía muy propria de su crítica vivacidad. Y en este caso, *que es el nuestro, no hay duda que la lengua Chichimeca carece de* innumerables términos, que son muy usados y vulgares en la Doctrina Christiana.”

Vemos, pues, en este caso, aplicado el término de lengua chichimeca a un idioma en concreto, que siendo común a numerosas tribus puede presentar diferencias dialectales,[11] pero que no se dice que sea ni otomí, ni la lengua mexicana “corrompida e disfraçada.”

Por desgracia, no logré hacerme de un ejemplar original y me abstuve de llevar a cabo el estudio comparativo, que hubiera sido pertinente, por temor a ser extraviado por errores posibles en la reproducción.

Con todo, tengo la impresión de que se trata de un mismo idioma y la descripción que hace el autor en sus *Advertencias Prologales,* y que copió a continuación[12] comparada con el resultado de mis observaciones fonéticas, permiten comprobar que en este respecto al menos la relación es evidente.

> “En este idioma hay algunas pronunciaciones algo forzadas, para cuya inteligencia se aduierte, que quando las letras c’, q’ t’ p’ l’ tuvieren la señal con que aquí están puestas, se han de pronunciar con alguna fuerza. De suerte que la prounciación de la c’ y de la q’ con dicha señal, es un cierto chasquido, que se forma en el nacimiento de la lengua. La t’ con dicha señal, indica un tronido, que se forma hiriendo con la lengua en los dientes. La p’ con su señal, denota una pronunciación, que se forma golpeando con fuerza los labidos a el pronunciarla, uno con otro. La pronunciación de la l’ con su señal, se forma tocando con la punta de la lengua los dientes de arriba, y asomandola un tanto quanto. La t, y z, juntas, se pronuncian como en el idioma Mexicano. La s, y h assi (sh) juntas, indican que no se pronuncie la s como en nuestro Castellano, sino encorbando y encogiendo la parte de la lengua, para que no suene como s sola; y bastará que se pronuncie como la x en latín, quando decimos *Xaverius.* La h solamente con vocal, o entre dos vocales, denota que, algunas Naciones la hieren, pronunciándola como j y otras no la hieren, sino que confusamente, que apenas se percibe. Obsérvelas su Ministro, y acomódese a él uso. La y griega hiere a la vocal que se le sigue. La i latina no hiere a otra vocal; y pongo esta diferencia, para que se acierte la pronunciación. Los acentos que se notan en las vocales, de este modo: a e i o u, y de este: á é í ó ú, se pronunciarán largos.”

El autor, Fr. Bartholomé García, dice haberlo sido también de un “Arte” de dicha lengua.

ADVERTENCIA FONETICA

El alfabeto fonético es el de Meinhoff, en parte importante y de manera secundaria se introducen algunas modificaciones por la necesidad de acomodarse a los tipos de la máquina. Para más facilidad, así por ejemplo, la letra ñ (ṅ), (η), representa la nasal velar. Todas las grafías se hallan representadas en la tabla y su lectura está al alcance de cualquiera persona medianamente versada en materia de transcripción fonética.

---

[11] V, p. 460, *ibid.*

[12] *Ibid.,* pp. 461–462.

El movimiento de los labios, muy marcado con ciertas explosivas, es breve en general. Hay notable tendencia a la velarización, frecuente "schnurren" y numerosos sonidos interdentales. La sonorización de consonantes y vocales suele ser fuera de la común.

La nasalización no es muy completa.

La cantidad y el acento son muy marcados, e indudablemete hay tonos y pronunciada tendencia a la sincopación.

El estudio de material más completo—el presente es un simple trabajo de información—aparecerá en la *Revista de Estudios Históricos.*

TABLA FONÉTICA

	Oclusivas		Constrictivas			
	Explosivas	Nasales	Fricatives	Laterales	Vibrantes	Africadas
Bilabial	*p B b*	*ṁ*	*b′* (v)			
Labio-dent.		*m̩*				
Labio-vel.	*b*	*ṁ*	*w̥* (*m*)			
Interdent.	*t̯*	*n̯*	ϑ	λ̯		
Dentales	*t D d*	*n*				*ts dz*
Alveolares			*s z*		*r*	
Cerebrales	*t*		*ẓ*	λ		
Palatales						*tš dž*
Velares	*q k g*	*ñ* (ŋ)				
Uvulares					*R*	
Laring.			*ɦ ḫ*			
Glotis						

Aspiracion *ʰh* v. g. *pʰ ph*

Enfaticas ! v. g. *p*!

Glotalizadas ' v. g. *p*'

Silabicas √ v. g. *r̮*

u
U *i*
Vocales *o ö ë c*
a
a

Cantidad: larga, a:, e: etc. Muy corta
e, i, a la parte de arrita o vocales
cortadas por la oclusion glotal; v. g. a′a

Observaciones. El sonido lateral cerebral representado por la letra lamda, λ, se produce como la cerebral con excepción de que la lengua se abate da un golpe desde la parte posterior immediata a los alveolos hasta los dientes de abajo. La λ̯ interdental es menos violenta. En algunos casos en vez de t se oye un "click" homorgánicȏ; v. g.: ụit-a, ombligo; Oi-ıṇa-T-ha, coyote vel dzi-ma-tha.

Breve Vocabulario del Idioma de la Mision de los Chichimecas, San Luis de la Paz, Guanajuato, Mexico

9. papá, *!tata*
11. mamá, *'nana*
13. esposo, *i:run*
14. esposa, *ʰùni-me:ni*
15. hijo, *nu:khí*
17. hija, *nu:khi-me:ní*
19. hermano mayor, *ʰura:-ma:tʰí*
20. hermano menor, *ʰUkʰe mökhë*
23. indio, *ʰo:ẓ:á*
24. gente, *ʰu:rir*
25. cabeza, *ka:Dán tsi-mó*
26. cabello, *kan-tʰé*
27. cara, *ʰor'á*
28. frente, *ʰUr'á-p¡ á*
29. oreja, *si:gá*
30. ojo, *ʰorañgí*
31. nariz, *ka:n̯ú*
32. boca, *ʰo:n̯í*
33. lengua, *na:ẓá*
34. diente, *ka:n̯í*
36. cuello, *qu:t¡un*
37. brazo, *si-se:*
38. mano, *qa-n̯iʰ*
39. dedos, *qa:-ne riẓá*
41. uña, *qa:nᵉrihmó*
43. pecho, *si:ndíʰ*
44. barriga, vientre, *hṁw̥á*
45. mamas, *dži-dži*
46. pìerna, *ʰe:re*
47. pie, *ʰe:gú*
50. corazón, *ku:ní*
51. sangre, *ʰo:qʰé*
52. pueblo, aldea, *t¡ i-tá*
57. casa, *ᵘR-o:z*
59. sepulcro, *ma:tú raʰ*
63. hacha, *n̯a:sí*
66. sandalia, *ʰᵘphats*
69. cielo, *bo:n̯ehí*
70. sol, *hṁö*
71. luna, *h̬ṁrin-thí*
72. estrella, *kʰan-deλ*
73. día, *ʰʷᵘb̄w̥á*
74. noche, *ʰʷᵘẓá*
75. la mañana, *ʰʷᵘ-qʰa:z*
76. la tarde, *ʰʷᵘRára*
81. viento, *qʰwun-the*
82. trueno, *qʰʷu-rieh bë*
84. lluvia, *qʰʷu-rie me:s*
86. fuego, *hmʰoʰ-Bha*
87. agua, *ku:rí*
88. hielo, nieve, *qu-ẓé*
89. tierra, *qʰwub̄w̥Λ*, *ʰu-b̄oʰa*
91. río, *dzin-the*
93. valle, *ub̄w̥aΛ*
94. llano, llanura, *ʰᵘb̄wΛ*
95. cerro, *hmBó*
97. piedra, *qʰu-roh*
98. sal, *ʰᵘR-hus*
102. bosque, *h̬ʷ-m̬*, *hu-m-a-há*
103. árbol, *kʰa-Bʰá*
105. hoja, *ʰri-ẓá*
107. hierba, *ṭar-ih*
109. maíz, *hwu-dzií*
110. frijol, *qʰan-heᵉ*
111. calabaza, *h̬wṁwëᵉ*
112. chile, pimiento, *b̄w̥a'ë*
113. carne, *ṇantʰa*
115. perro, *dzi-m̦á' ir-ú*
116. coyote, *dzi-m̦a tha*
121. zorra, *rikₕa:ts*
123. ciervo, *na:n-ṭʰá ma:ṭha*
126. ratón, *ni:ñgö dza-hí*
127. conejo, *t¡añ-b̄w̥'ë*
130. lagartija, *dzí-phëR*
131. caballo, *hu:Rʰá*
132. mosca, *k¡a:rá*
134. sapo, *kum-b̄w̥'a*
135. culebra, *ṇa-ẓu*
137. alacrán, *dzu:n-de:n*
138. ave, pájaro, *dzi'-dza'*
139. huevo, *ṁundó*
140. plumas, *r̥-iẓé*
144. zopilote, *ʰu-n̯í*
146. pavo, guajolote, *ku-λé*

Numeracion

1, *h̬wunṭá*
2, *tane hen'os*
3, *ṭi:n o:'o*
4, *ti:p-p'u'a:n*
5, *sañgu̯á-ró*
6, *ṭa-k'u*
7, *za:kisʰʷᵃ*
8, *zaninš 'euh*
9, *'apa ṁw̥ëuh*
10, *r̥-atsóro*
11, *r̥-atsóro nDanńdž*
12, *r-atsóro nDaneʰen n̯u'dzed*
20, *'opʰi nDa'upʰi*
100, *nDauRh*

México, D. F.

ÜBER DIE MAYASPRACHE VON CHICOMUCELO

Von Franz Termer

An dem gegen Nordosten gekehrten steilen Absturz der Sierra Madre von Chiapas liegt in einem gegen Nordosten geöffneten Tale das kleine Dorf Chicomucelo in einer Meereshöhe von ungefähr 550 Metern. Von der breiten grabenartigen Senke, die der Rio Chiapas in nordwestlicher Richtung durchströmt, trennt den Ort eine zerschluchtete, kahle, aus Tonschiefern in der Hauptsache aufgebaute Hügellandschaft, die sich allmählich zur Sohle der Senke abdacht. Nach Osten erstreckt sich parallel der Sierra Madre eine schmale Senke, in der ein verhältnismässig ebener Weg nach den Tal des aus Guatemala kommenden Rio Cuilco führt. Hier mündet der Weg bei dem Dorfe Cuxú in den Hauptweg von Tapachula nach Comitán. Derart von dem Gebirge und seinen Ausläufern eingeschlossen, liegt Chicomucelo abseits des Verkehrs, was sich in dem stillen, zurückgezogenen Leben der Ortsbewohner ausspricht.

Diese mögen heute mit der Bevölkerung der umliegenden zum Dorfdistrikt gehörenden Weiler schätzungsweise 2500 Seelen betragen. Sie setzen sich im Orte selbst aus Ladinos (Mischlingen) und ladinisierten Indianern zusammen, während sich in der Umgebung in zerstreuten Einzelgehöften noch weniger von Mischlingen beeinflusste Indianer erhalten haben. Die Bestellung ihrer Maisfelder, die Zucht von Schweinen, Hühnern und Truthühnern, daneben von einigem Rindvieh ist die Hauptbeschäftigung dieser Leute, die ausserdem in die Kaffeeplantagen an der pazifischen Küste in jahreszeitlichenWanderungen als Saisonarbeiter ziehen. Die Ladinos widmen sich einer wenig bedeutsamen Pferdezucht und dem Landbau, pflanzen auch ein paar Bananen für den Eigenbedarf.

Der erste, dem wir eine Nachricht über den Ort verdanken, ist Karl Sapper, der im Jahre 1894 auf einer Reise von der Chiapas-Senke her Chicomucelo berührte und dort wider Erwarten einer besonderen Sprache begegnete, der insofern eine grosse Bedeutung zukommt, als sie sich nahe verwandt der Sprache der Huaxteca an der mexikanischen Golfküste bei Tampico zeigte. Sapper nahm damals ein Vokabular von 169 Wörtern auf, das er im Jahre 1897 in seinem Werke *Das nördliche Mittelamerika* (S. 408–436) veröffentlichte. Da seitdem, soweit bekannt, niemals der Versuch wiederholt wurde, ergänzendes Material dieser interessanten, wichtigen Sprache zu sammeln, so unternahm ich gelegentlich einer Reise durch das mittlere und nördliche Chiapas und Tabasco im Anfang des Jahres 1926 zu diesem Zweck von Comitán einen Abstecher nach Chicomucelo. Wie zu erwarten, zeigte sich, dass in den rund fünf und dreissig Jahren seit Sapper's letztem Besuch von dem schon damals nicht mehr häufig gesprochenen Idiom nur mit Schwierigkeit noch Überbleibsel aufzufinden waren. Die ersten Individuen, die mir als Interpreten von den Ortsbehörden namhaft gemacht wurden, redeten durchweg das abweichende Motocintleca, das ist die Sprache des von Chicomucelo südöstlich in der Sierra Madre gelegenen Dorfes

Motocintla. Erst durch längeres Umherfragen bei älteren Ortsbewohnern kam heraus, dass vor Jahren noch eine andere "Lengua" im Orte gesprochen, aber heutzutage erloschen wäre. Beharrliches Weiterfragen führte schliesslich dazu, noch drei Individuen ausfinding zu machen, die, sämtlich über siebzig Jahre alt, diese andere "Lengua" verständen. Es waren zwei Greise und eine alte Frau. Diese wohnte im Dorfe, war aber völlig unzugänglich für eine Sprachaufnahme. Wie sich ergab, war sie vor einigen Jahren von durchreisenden Fremden photographiert und danach krank geworden, und jeder, der die Psyche der Indianer und besonders der indianischen Frauen kennt, weiss, dass solche Umstände die Leute für spätere Zeiten erneuten Annäherungsversuchen von seiten Fremder eine unüberwindbare Abneigung entgegenstellen lassen. Die beiden Männer dagegen, die westlich des Dorfes in Einzelhütten etwa 1 bis 1½ Stunden entfernt beheimatet waren, zeigten sich willig und fanden sich am 3. März 1926 bei mir zu einer Sprachaufnahme ein. Der eine, Manuel Aquino, war leider schon gedächtnisschwach, der andere, Pedro García, dagegen noch im Vollbesitz seiner geistigen Regsamkeit, so dass mit beiden gemeinsam ein Vokabular von 284 Wörtern aufgenommen werden konnte. Schon bei den ersten Wortproben an Hand von Sapper's Aufzeichnungen zeigte sich, dass hier die in Betracht kommende "Lengua de Chicomucelo" vorlag. Eingehende Nachforschungen bei den beiden Alten ergaben mit Sicherheit, dass sie neben der Frau die einzigen noch lebenden Individuen mit diesen Sprachkenntnissen im Umkreis des Dorfdistriktes waren, aber selbst unter sich nicht mehr diese Sprache benutzten, sondern sich des Spanischen bedienten. Die anderen in der Nachbarschaft ansässigen Indianer redeten teils Motocintleca, teils die "Lengua de Guatemala." Hierunter sind Mayasprachen des westlichen Guatemala zu verstehen, also vornehmlich das Mam, da in den letzten Zeiten und besonders während der Präsidentschaft von Manuel Estrada Cabrera Indianer aus den westlichen Altos in Guatemala über die mexikanische Grenze auswanderten und sich in der Sierra Madre von Chiapas niederliessen. So haben deren Sprache und das Motocintleca das ursprüngliche Chicomuceltec verdrängt. Auch diese Indianer reden heute neben ihrer "Lengua" Spanisch.

Irgend welche Erinnerungen an älteren Kulturbesitz, so auch namentlich an einen älteren Kalender, waren bei den Interpreten nicht mehr vorhanden. Auch die Maskentänze, wie sie unter den Hochlandsindianern Guatemalas noch gang und gäbe sind, werden seit Jahren nicht mehr aufgeführt. Doch konnten sich meine beiden Gewährsmänner noch an solche aus ihrer Jugend erinnern.

Aufgabe vorliegender Abhandlung ist, das von Karl Sapper und mir gesammelte Material hier der Öffentlichkeit zugänglich zu machen, und zwar so, dass im Folgenden das von mir 1926 aufgenommene und das von Sapper in den neunziger Jahren aufgezeichnete Vokabular gegenübergestellt bezw. ergänst ist. Ferner hielt ich es für angebracht, dazu nochmals das von Otto Stoll[1] über das Huaxteca (Huasteca) veröffentlichte Material hinzuzufügen. Weiteres Sprachmaterial des Huaxteca stand mir leider zu Vergleichszwecken am Orte der Abfassung vorliegender Arbeit nicht zur Verfügung. In der Orthographie ist die spanische Schreibweise gewählt worden, um eine Vergleichung mit den älteren Aufzeichnungen zu erleichtern.

---

[1] *Zur Ethnographie der Republik Guatemala*, Zürich, 1884.

Doch nicht nur mit dieser entlegenen Sprachinsel an der Küste des mexikanischen Golfes hat das Chicomucelteco sehr auffällige Übereinstimmungen, sondern nicht minder bemerkenswerte Beziehungen bestehen zwischen ihm und dem Jacalteco sowie dem Chuj und dem Solomeño. Sämtliche eben erwähnten sind Mayasprachen im Gebiet der Altos Cuchumatanes im nordwestlichen Guatemala, die ich auf zwei Reisen in den Jahren 1926 und 1927 besuchte. Seit den Zeiten Stoll's und Edwin Rockstroh's sind diese dem Mam nahe stehenden Sprachen wohl nur von Robert Burkitt und der Tulane-Expedition von Jahre 1927 unter Herrn La Farge ausführlicher aufgenommen worden, ohne dass dieses Material bisher veröffentlicht worden wäre. Ich kann daher im Folgenden nur auf die Mitteilungen von Otto Stoll[2] und auf eigene Vokabularaufnahmen in San Juan Ixcoy und San Mateo Ixtatan zurückgreifen.[3]

In einer vergleichenden Tabelle ist das Chicomucelo dem Mam, Jacalteca und Chuj gegenübergestellt worden. Hierbei wurde bei dem Mam sowohl auf die Grammatik von Diego de Reynoso wie auf eigene Aufnahmen in den Dörfern Sibinal, Tacaná, Tectitán, und San Ildefonso Ixtahuacán zurückgegriffen. Keinerlei Verbindungen liessen sich mit dem immer noch rätselhaften Aguacateco II herstellen, dessen von Stoll aufgenommenes Vokabular ich im Jahre 1925 unter dem schriftlichen Nachlass dieses Forschers in Zürich wieder auffand. Nur ein einziges Wort zeigt eine Übereinstimmung, *epé,* das im Chicomucelteco "Mutter," im Aguacateco II als *caf-épè* "Gattin" bedeutet. Trotz dieser Beziehungen bleibt dem Chicomucelteco seine Selbständigkeit gegenüber den Nachbarsprachen im nordwestlichen Guatemala gesichert, ohne dass bei dem Mangel an grammatikalisch und syntaktisch ausreichendem Sprachmaterial diese Stellung genau umrissen werden kann. Es erscheint somit nunmehr eingerahmt von Chuj und Jacalteca im Osten, dem Huaxteca im äussersten Nordwesten und der Tzental-gruppe mit dem Chaneabal im Norden, so dass wir in diesem Zusammenhang einen Weg zur Lösung des Huaxteken-Problems sich öffnen sehen. Dieser im Einzelnen schon jetzt hier nachzugehen, muss ich mir versagen und sie späteren Studien vorbehalten.

Der Kern des Problems ist, um es wenigstens kurz anzudeuten, die Frage nach der so oft schon diskutierten Herkunft und der ursprünglichen Heimat der Mayavölker überhaupt. Neben den linguistischen sprechen auch anthropogeographische Indizien für eine Entscheidung dieser Frage zugunsten des nördlichen Mittelamerika, dieses in seiner physisch-geographischen Umgrenzung bis an den Isthmus von Tehuantepec verstanden. Ob die Mayabevölkerung der Chicomucelteca schon seit langer Zeit in ihren Wohnsitzen in der Sierra Madre ansässig war, ist die zweite bedeutsame zu klärende Frage. Die Wahrscheinlichkeit dafür ist gerade im Hinblick auf die obigen Darlegungen vorhanden.

Soweit wir unterrichtet sind, wohnten seit alter Zeit in der mittelchiapanekischen Senke (Grijalva Senke) und der Sierra Madre die Chiapaneken, ein besonderer, mit eigener Sprache begabter Volksstamm, der nicht zur Maya-familie gehörte.[4] Aber sie stellten nicht die Urbevölkerung jener Gebiete vor, waren vielmehr erst später dort eingewandert und hatten, wenn ältere Quellen richtige Angaben hierüber machen,[5] sich zwischen Mayastämme eingeschoben, so dass also diese vor ihnen in jenen Gebieten ansässig zu denken sind.

---

[2] *Die Sprache der Ixil-Indianer,* 1887, S. 136 ff.

[3] Anm.: Durch das Entgegenkommen von Herrn O. La Farge war es mir möglich, ergänzendes Material des Jacalteco aus seinen Aufnahmen hinzuzufügen, wofür ihm an dieser Stelle ganz besonderer Dank ausgesprochen sein mag.

Man hat sich dort entlang dem Nordabfall der Sierra Madre eine mit Guatemala im Osten, mit Mittelchiapas (Tzental und Zotzilgebiet) im Norden in Verbindung stehende Mayabevölkerung vorzustellen, über deren westliche Ausdehnung bisher kaum etwas Sicheres auszusagen ist. Ich möchte sogar Chiapas, Tabasco, und die Hochländer Guatemalas für die Heimat der Mayavölker halten, von der aus sie sich doch nur wenig—mit Ausnahme der Huaxteken—ausgebreitet haben, wenn man damit die räumlichen Entfernungen vergleicht, die die Wanderungen der Nahuavölker des mexikanischen Hochlandes uns vor Augen führen. Schon dieser Umstand spricht m.E. für die Autochthonität der Maya in den genannten Gebieten. Wenn demgegenüber auf die Wandersagen der Hochlandsstämme Guatemalas, die nur von den Quiché und Kakchiquel bekannt sind, hingewiesen werden sollte, die Einwanderungen teils von Osten, teils von Westen berichten, so fällt das für die Maya im allgemeinen fort. Denn es handelt sich hierbei um mexikanische historisch-legendäre Stoffe, die nur eine sekundäre Bedeutung für die Frühgeschichte Guatemalas besitzen. Damit wird erklärlich, dass vom Hauptkörper der Mayavölker abgetrennte Teile sich in dem unwegsamen Gebirge der Sierra Madre als kleinere Enklaven von Stammes—oder Sprachsplittern in fremdem, d.h. chiapanekischem Stammes- und Sprachgebiet erhielten und dass wir somit in den Chicomucelteca den letzten Rest einer alten vermutlich autochthonen Bevölkerung des östlichen Chiapas vor uns haben.

Alle derartigen Erwägungen müssen Aufgabe eingehender, zukünftiger Forschungen bleiben. Sie werden zeigen, was sich bereits jetzt immer deutlicher herausschält, wie ungemein wichtig die rastlose Durchforschung Südmexikos für die Frage nach der Urheimat der Mayavölker und ihre Beziehungen zu den übrigen Völkern des östlichen und mittleren Mexiko auf der einen Seite, den isolierten Völkern im nördlichen Mittelamerika auf der andern sein wird.

VOKABULAR DES CHICOMUCELTECO
MIT
EINEM VOKABULAR VON KARL SAPPER UND EINEM WÖRTERVERZEICHNIS DES HUAXTECA VON OTTO STOLL

	Termer	Sapper	Huaxteca nach Stoll
1. Zunge	*lekaú*	....	*lecáb*
2. Mund	*tukuví*	....	*vui*
3. Oberlippe	*otol tukuví*	....	....
4. Unterlippe	*otol tukuví itialan*	....	....
5. Zahn	*kamaú*	....	*camablec:* Schneide-u. Mahlzähne
		....	
6. Nase	*tzam*	....	*sam*
7. Auge	*val*	....	*vuál*
8. Ohr	*uchún*	....	*xutzúm*
9. Stirn	*val*	....	....
10. Kopf	*ok*	....	*oc*

---

[4] vgl. Lehmann, W., *Zentral-Amerika*, Teil I, *Die Sprachen Zentral-Amerikas*, Band II, S. 864–900.

[5] vgl. Lehmann, *ibidem*, S. 832.

	Termer	Sapper	Huaxteca nach Stoll
11. Schädel	*ok*	....	....
12. Kopfhaar	*ulók*	....	*xil:* Haar allgemein
13. Augenbrauen	*uluvál*	....	....
14. Augenwimpern	*uluvál*	....	....
15. Bart	*xuúl*	....	*itzím*
16. Wange	*uxál*	....	....
17. Kinn	*alví*	....	....
18. Schulter	*ocoú*	....	....
19. Oberarm	*tihíc*	....	....
20. Ellbogen	*tihíc*	....	*tiyíc*
21. Hand	*kovác*	....	*okób*
22. Finger	*tamtu kovác*[1]	....	*cubacléc*
23. Daumen	*epe tukovác*[2]	....	*mimu cubác*
24. Kleinfinger	*tamtu kovác*	....	....
25. Fingernagel	*ichác*	....	*itzíc*
26. Bein	*akán*	....	*tzejét*
27. Oberschenkel	*kuchejét*	....	....
28. Unterschenkel	*tolótz*	....	....
29. Knie	*potonál*	....	*cualál*
30. Fuss	*akán*	....	*akán*
31. Zehen	*tukoicháe*	....	....
32. Zehennagel	*tamtú akán*	....	....
33. Körper	*iník*	....	*inic-tál*
34. Leichnam	*chemenekítz*	....	....
35. Hals	*nuc*	....	*nuc*
36. Nacken	*chunúc*	....	*nuc*
37. Achselhöhle	*alamotótz*	....	....
38. Rippen	*sayán*	....	....
39. Brust	*valvichít*	....	....
40. Brustwarze	*im*	....	....
41. weibl. Brust	*im*	....	*mil*
42. Bauch	*tucúl*	....	*chucúl*
43. Nabel	*c'oón*	....	*con*
44. Rücken	*telel tukovalíc*	....	....
45. Gesäss	*vankú; xilá*	....	....
46. Penis	*ul*	....	....
47. Vagina	*mem*	....	....
48. Haut	*tuokól*	....	....
49. Knochen	*veklék*	....	*beklék*
50. Blut	*chich*	....	*xijtz*
51. Fleisch	*ax*	....	....
52. Herz	*vichít*	....	....
53. Leber	*mamál*	....	....
54. Lunge	*okóu*	....	....
55. Magen	*estómago* (sp.)	....	....
56. Darm	*ch'atá*	....	*tisís*
57. Speichel	*tuj*	....	....
58. Urin	*panatiká*	....	*chic*
59. Schweiss	*achikéu*	....	*tzaquíb*
60. Tråne	*aluvál*	....	....
61. Kot	*tenachihát*	....	....
62. Atem	*ik*	....	....
63. Schnabel	*isám*	....	....
64. Schwanz	*véu*	....	*jucúj*
65. Flügel	*pavaú*	....	*pabáb*
66. Feder	*ujúl*	....	*juclée*
67. Flosse	*pavaú*	....	....
68. Wasser	*ha*	*yaxha*	*ja*
69. Fluss	*ha*	*ha*	*jualjá*
70. Bach	*velam ha*	....	....
71. Feuer	*si*	*si*	*k'a'k*
72. Rauch	*pa*	*ba*	*paúj*
73. Asche	*tai*	*tai*	*joltái cuixix*
74. Brennholz	*si*	*si*	*si; te*
75. Himmel	*valchavál*	*vualchavál*	*tiaéb*

---

[1] soviel wie: Söhne der Hand.

[2] soviel wie: Mutter der Hand.

	Termer	Sapper	Huaxteca nach Stoll
76. Luft	*ik*	……	……
77. Wolke	*siál*	*siál*	*tocób*
78. Regen	*siál*	*au*	*ja*
79. Nebel	*cham*	……	……
80. Wind	*ik*	*ik*	*ik*
81. Sturm, Gewitter	*chokí*	……	……
82. Blitz	……	*cuxhix*	*tzoc*
83. Donner	……	*cuxhix*	……
84. Hagel	……	*tuau*	……
85. Regenbogen	*tanilaú*	……	……
86. Sonne	*k'alál*	*k'alál*	*aquichá*
87. Schatten	*xalám*		……
88. Erdbeben	……	*pachau*	……
89. Jahr	*hun echél*	……	*tamúb*
90. Tag	*itá*	*k'ita*	*ki aquichá*
91. Nacht	*akál*	*acal*	*akál*
92. Morgen	*c'alamé*	……	*calám:* *morgen Adv*
93. Mittag	*kvatitá*	……	……
94. Abend	*aklém*	……	……
95. Mond	*itz*	*ich*	*aitz*
96. Mondfinsternis	*palpachevel*	……	……
97. Sonnenfinsternis	*palpachevel k'alal*	……	……
98. Stern	*ot*	*ot*	*ot*
99. Morgenstern	*pajoót*	……	……
100. Orion	*Tres Marias* (sp.)	……	……
101. Plejaden	*Siete Cabrillas* (sp.)	……	……
102. Milchstrasse	*vel*	……	……
103. Erdboden	*chavál (suelo)*	*chauán* (Erde)	*tzabal* (Erde)
104. Land	*amáb*	……	……
105. Feld	*tom*	*tom:* Ebene	*tzallám:* Ebene
106. Weg	*vel*	*vuel*	*bel*
107. Berg	*chen*	*chen*	*tzen, tzeém*
108. Wald	*ilál*	……	*alté; tellám*
109. Höhle	*imajól*	……	……
110. Sand	*kisíu*	*quisíu*	*quisíb*
111. Stein, allgemein	*tuhú*	……	*tujúb*
112. Stein, Mahlstein	*cha*	*cha:* Stein, Mahlstein	……
113. Felsen	*hasám*	……	……
114. Eisen	*machit* (sp.)	*chit*	*patal*
115. Silber	*tak'in*	*tak'in*	*sak takín*
116. Kalk	……	*tai*	……
117. Kohle	……	*cuxix*	*calul*
118. Feuerstein	……	*tuhil ixlabon*	……
119. Kanal	……	*tacao*	……
120. Dorf	*mulé*	*mulé*	*bichón*
121. Haus	*imá*	*kimá*	*atá; pasél*
122. Dach	*tzin*	……	……
123. Tür	*vuelta* (sp.)	……	……
124. Stützpfeiler	……	*pilal*	*akam láb*
125. Wand	……	*jen*	*tiáb; hem*
126. Sitzschemel	*bancú* (sp.)	……	……
127. Hängematte	*ch'a*	*ch'a*	……
128. Bett	……	*chei*	*tzei*
129. Tuch	*payú* (sp.)	*payú*	*cuachím*
130. Wolltuch	……	*cctaam*	*puchláb*
131. Spindel	*tuxux*	……	……
132. Faden	*poc*	……	……
133. Baumwolle	*kuním*	*cuním*	……
134. Webstuhl	*chatál*	……	……
135. Netz	*k'ojóm*	*k'ojóm*	*tzoinabtzá*
136. Schnur	……	*sapup*	*tza*
137. Matte	*tat* (sp.)	*tat*	*tat* (mex.)
138. Guacal	*hot*	*jot*	*pach; mul*
139. Kalebasse	*itál*	*tim* (*jícara*)	……
140. Olla	*pat*	*pat*	……
141. Tol	……	*lac*	……
142. Tecomate	……	*tuc*	*calám*
143. Beil	*chit*	*chit*	……

	Termer	Sapper	Huaxteca nach Stoll
144. Mahlstein	*ch'a*	*ch'a*	....
145. Handwalze	....	*tamcha*	....
146. Korb	....	*ex*	*tocnál*
147. Mecapal	....	*bobó*	*ocláb*
148. Tinaja	....	*mul*	*juyúl*
149. Jaro	....	*chulpat*	....
150. Einbaum	*tan*	*tan*	....
151. Bogen	*pixcontál*	....	*pulláb*
152. Pfeil	*tesíl*	....	*tichocláb*
153. Steinschleuder	*vixók*	....	....
154. Blasrohr	*cerbatana* (sp.)	(sp.)	....
155. Dolch	*cuchilú* (sp.)	....	....
156. Fischspeer	*toxtál*	....	....
157. Angel	*uchíl*	....	....
158. Hemd (Mann)	*camíx* (sp.)	....	....
159. Hemd (Frau)	....	*cahal*	?
160. Weiberrock	....	*lacau*	*lacáb*
161. Sandalen	*pajaú*	*apajau*	*pajabláb*
162. Kamm	*saím*	*saín*	*tzicháb*
163. Fächer	*pes*	....	....
164. Hut	....	*setelaóc*	*tzumpelél*
165. Maske	*máscara* (sp.)	....	....
166. Tanz	*kuixmach*	....	....
167. Fest	*k'ij*	....	....
168. Mensch	*iník*	....	....
169. Mann	*k'et*	*inik*	*iník; iníc*
170. Vater	*palé* (sp.)[3]	*ajtic; calé*	*pailóm; pap*
171. Papa (Kinderwort)	*ajtíc*	....	....
172. Mutter	*epé*	*epé*	*mim*
173. Schwiegermutter	*uyám*	....	*uxúm, iyám; uxum, alib*
174. Kind	*tuxti iník*	....	
175. Sohn	*vatík*	*tamtíc*	*atíc; tam*
176. Schwiegersohn	*uyám*	....	*ayám*
177. Knabe	*uíu*	....	....
178. Bruder	*ucú*	*uktak*	....
179. älterer Bruder	....	*cucu*	*atmím*
180. jüngerer Bruder	*vakám*	*acaú*	*atalál*
181. Schwester	*nunú*	....	....
182. ältere Schwester	....	....	*bayíl*
183. jüngere Schwester	....	....	*acáb*
184. Weib	*uxúm*	*uxúm*	*uxúm*
185. Gattin	*uxmál*	....	....
186. Mädchen	*ixc'at*	....	....
187. Tochter	*atíc*	....	*atíc*
188. Wittwe	*ilvaté*	....	*uxúm cuajillám*
189. Oheim	*ichán*	....	*yelám; pailóm*
190. Grossvater	*uxapín*	*mam*	*maní*
191. Grossmutter	....	*xepín*	*ach*
192. Greis	*cheminík*	....	....
193. Vorsteher	*utata nabatíc*	....	....
194. Arzt	*ilaxóm*	....	....
195. Brujo	*tokó*	....	....
196. Arzneimittel	*ilál*	....	....
197. Krankheit	*xemblaú*	....	....
198. Tabak	*mai*	*mai*	*mai*
199. Zigarre	*tucuúch*	....	....
200. Gott	*tekuajtíc*	....	....
201. Name	*tonacabíj*	....	....
202. Stimme	*tonacavijatá*	....	....
203. Schlaf	*navajích*	....	....
204. Affe	*mono* (sp.)	....	....
205. Fledermaus	*sot*	*sot*	....
206. Jaguar	(sp.)	*tzutuchó*	....
207. Puma	....	*chac cho*	*tzo*
208. Hirsch (venado)	*vitím*	*vitím*	*tenecbichín*

---

[3] Anredeform für den Pfarrer.

	Termer	Sapper	Huaxteca nach Stoll
209. Tapir	*tiíl*	*til*	....
210. Pferd	*cayú* (sp.)	....	....
211. Hund	*sul*	*sul*	*picó*
212. Katze	....	*mis*	*mitzú*
213. Ratte	*olóm*	....	....
214. Maus	....	*olóm*	*teel*
215. Gürteltier	*uotó*	*uotó*	....
216. Kaninchen	....	*coy*	*coi*
217. Schwein	....	*xoló*	*oloḿ*
218. Wildschwein	....	*la xolo*	*olóm*
219. Jabalí	....	*ilal xolo*	*olóm*
220. Taltusa	....	....	*baím*
221. Rüsselbär	....	*pcsu*	*bexe*
222. Eichhörnchen	....	*tuctuc*	*otél*
223. Coyote	....	*antuch*	*chuch*
224. Vogel	(sp.)	....	*tzitzín*
225. Ei	*utichín*	....	*sakchók*
226. Papagei	*pilikú*	....	....
227. Taube	*palomáx* (sp.)	....	....
228. Henne	*pechechín*	*chichín*	*pitá*
229. Fisch	*toól*	*toól*	*tol*
230. Alligator	*cn*	*cn*	*ajín*
231. Schlange	*sotós*	*chan*	....
232. Klapperschlange	*sotós*	....	....
233. Frosch	*ch'uch*	....	*petzpetz*
234. Kröte	*josc'á*	*chuch*	*cua; tim*
235. Eidechse	*sec*	*scc*	....
236. Leguan, Igúana	*osóu*	....	....
237. Schildkröte	....	*petpet*	....
238. Ameise	*saních*	*saních*	*itzanítz*
239. Moskito	*unún*	....	*yeím*
240. Mücke	....	*ajlíc*	*janéc*
241. Fliege	*ajlíc*	....	....
242. Biene	*ansíp*	*chalam cheten*	....
243. Honig	*chetém*	*chalam chcten*	....
244. Heuschrecke	*pichích*	....	....
245. Wespe	*abispa* (sp.)	....	....
246. Schmetterling	*mariposa* (sp.)	....	*lemtútu*
247. Floh	*cha'c*	*chac*	*tzac*
248. Spinne	(sp.)	*am*	*aám*
249. Sandfloh	....	*ochem chac*	....
250. Laus	....	*uch*	*utz*
251. Krebs	....	*tak'us*	*tzacái*
252. Krabbe	....	*jit*	*xoótz*
253. Skorpion	....	*siní*	*siní*
254. Muschel	*mic*	*mic*	....
255. Schnecke	*ul*	*ul*	....
256. Zecke	....	*tip*	*tit*
257. Baum	*te*	*te*	*te*
258. Blatt	*sekelté*	....	*xequél; xecle*
259. Rinde	*otox té*	....	....
260. Wurzel	*viixím*	....	*ibíl*
261. Samen	*viyé*	....	....
262. Harz	*vijaál*	....	....
263. Kopal	....	*pom*	....
264. Blüte	*vichilté*	....	*vuítz:* Blume
265. Frucht	*ivalíl*	....	....
266. Kraut	*pox*	....	....
267. Maiskolben	*vaí*	*vuai*	*guái*
268. Maisfeld	*alé*	*alé*	*cm*
269. Maiskörner	*isís*	*vual isis*	*isís*
270. Banane	*pulá*	*pulá*	*itás*
271. Maishüllblatt	....	*omot*	....
272. Olote	....	*hohol*	*bojól*
273. Elote	....	....	*ajám*
274. Chile	....	*ich*	....
275. Yuca	....	*tzinté*	....
276. Camote	....	*is*	....

	Termer	Sapper	Huaxteca nach Stoll
277. Tomate	....	*tusai*	....
278. Achiote	....	*quitá*	....
279. Ananas	....	*masati*	....
280. Aguacate	....	*ou*	*ju*
281. Zapote	....	*itas*	....
282. Chicosapote	....	*chau itas*	....
283. Ayote	....	*ita*	....
284. Guayava	....	*vuec*	....
285. Anona	....	*ajte*	....
286. Bohne	*chenúk*	*chenúk*	*pucúl*
287. Zuckerrohr	*pakclém*	*pajquelem*	....
288. Kiefer	*ta*	*ta*	*sakté* (Fichte)
289. Coyol	....	*mep*	....
290. Buschwerk	....	*ilál*	....
291. Sabane	....	*tom*	....
292. Ceiba	....	*unáp*	....
293. Salz	....	*et em*	*at em*
294. Tortilla	....	*vuacán*	*bacám*
295. Nistamal	....	*cuchal*	....
296. Totoposte	....	*ixvuac*	....
297. Atol	....	*yu*	....
298. Tamal	....	*vualis*	....
299. Pinol	....	*muos*	....
300. 1	*jun*	*jun*	*jun*
301. 2	*chate eu*	*chate eu*	*tzab*
302. 3	*oxte cu*	*oxtc cu*	*ox*
303. 4	*che te eu*	*che te cu*	*tze*
304. 5	*vote cu*	*vo te eu*	*bo*
305. 6	*kakte eu*	*kakte eu*	*akak*
306. 7	*hukte eu*	*hukte eu*	*buk*
307. 8	*vuaxakte eu*	*vuaxakte eu*	*vuaxik*
308. 9	*vuelete eu*	*vuelete eu*	*belleuj*
309. 10	*laute eu*	*laute cu*	*laju*
310. 11	*juni lahu*	*juni lahu*	*lajujun*
311. 12	*chauilaju*	*chauilaju*	*lajutzab*
312. 13	*oxe*	....	*lajoux*
313. 14	*tzeé*	....	*lajutze*
314. 15	*boteu*	....	*lajubó*
315. 16	*kakteu*	....	*lajuakak*
316. 17	*hukteu*	....	*lajubúk*
317. 18	*vaxakteu*	....	*lajujuaxík*
318. 19	*beleteu*	....	*laju beleúj*
319. 20	*juniník*	*juniník*	*juminík*
320. 40	....	*chauinik*	*tzabiník*
321. 60	....	*oxinik*	*oxiník*
322. 80	....	*chenek*	*tzeiník*
323. 100	....	*hoo inik*	*boiník*
324. 200	....	*chate te hooinik*	....
325. 400	....	*chete te hooinik*	*tzeboiník*
326. 800	....	....	*vuaxib boiník*
327. 1000	*cien diez*	....	*xijunxi*
328. gross	*yejelích*	....	*pullíc*
329. klein	*tuxté*	....	*chichíc*
330. hoch	*tayejcl*	....	....
331. tief	*lejćm*	....	....
332. lang	*nacát*	....	....
333. breit	*pelikivál*	....	*tzicót*
334. fett	*tapulík*	....	*tus; kochól*
335. mager	*tayajyá*	....	*tijáx; tilibíl*
336. schwer	*altukupám*	....	*alchic*
337. leicht	*amalakupám*	....	*asilóm*
338. alt	*cheminík*	....	*yetzel; tzióm*
339. jung	*chetón*	....	*tzejél*
340. gerade	*tanatoxít*	....	....
341. rund	*ake vuelta*	....	....
342. kalt	*chaíl*	*chaíl*	*tzamái*
343. warm	*k'a'k*	*k'a'k*	*k'a'k*

		Sapper	Huaxteca nach Stoll
344. trocken	*vainék*	………………	………………
345. nass	*lop*	………………	………………
346. gesund	*tajeltliká*	………………	………………
347. krank	*maltabaáj*	………………	*yaúl*
348. tot	*xemenejích*	………………	*tzamnék*
349. blind	*pataxovák*	………………	………………
350. taub	*taxaltojítz*	………………	………………
351. stumm	*tahumá*	………………	………………
352. gut	*tahelatniká*	………………	*alvuá*
353. schlecht	*maltabán*	………………	*atáx*
354. tapfer	*tasukumál iník*	………………	………………
355. weiss	………………	*sakní*	*sakní*
356. schwarz	………………	*ek'inik*	*cjej*
357. dunkel	*yakúx*	………………	………………
358. schmutzig	*tutúm*	………………	………………
359. rot	………………	*chacni*	*tzakní*
360. grün	………………	*yaxni*	*yaxni*
361. gelb	………………	*k'anni*	*man*
362. hell	*tajaxítz*	………………	………………
363. gestern	*avechitz*	………………	*tijuél*
364. morgen	*kalamé*	………………	*calám*
365. heute	*avení*	………………	*xajué*
366. immer	*venoní*	………………	………………
367. rechts	*chankovák*	………………	………………
368. links	*chalankovák*	………………	………………
369. hier	*teninobatík*	………………	*tioxé*
370. ja	*bueno itz*	………………	………………
371. nein	*am itz*	………………	………………
372. vorwärts	*vanajítz*	………………	………………

VERGLEICHENDES WORTVERZEICHNIS DER SPRACHEN VON CHICOMUCELO, JACALTENANGO, DEM CHUJ, MAM UND SOLOMEÑO

	Chicomucelteco	Jacalteco	Chuj (Solomeño)	Mam
1. Nase	*tzam*	*cham*	*tam*	*cham*
2. Ohr	*u-chun*	*chikin*[4]	*chikin*[4]	
3. Mund	*tuku-vi*	*ti*	*ti*	*tzi*
4. Stirn	*val*	*bal-an*		*pal-aj*
5. Hals	*nuc*[5]	*nûc*[4]	*nuj*[5]	
6. Frauenbrust	*im*		*im*	*inij* (SII)
7. Bauch	*tu-cul*	*cul*	*coól*	
8. Nabel	*c'oon*		*cool*	*c'uj*
9. Gesaess	*van-ku*		*xu*	*tacham nu-c'ux*
10. Fuss	*akan*	*oc; oj*[4]	*c'ajan*	*kan*
11. Kopf	*ok*	*oj:* Fuss	*ok:* Fuss	
12. Blut	*chich*	*chiic*	*chiic*	*chi'c*
13. Weib	*u-xum*	*ix*[4]	*ixix*[4]	*xuj*
14. Gattin	*u-xmal*	*ixal*	*itsil*[4]	
15. Bruder	*uktak*	*uxtak*[4]	*uktak*	
16. Oheim	*ichan*	*mam*[4]	*bûtag*[4]	*ikiam; vikan; chman*
17. Haus	*imá*	*na*	*pat*	*ja* (Sib.)
18. Hängematte	*ch'a*	*achuan*	*abchan*	
19. Bett	*chei*	*ch'at*	*ch'at*	
20. Mahlstein	*ch'a*	*cab*	*cha*	*caa*
21. Asche	*tai*	*tan*		*tzáaj* (Tec.)
22. Rauch	*pa*		*ta-ab*	
23. Brennholz	*si*	*si*	*si*	*tzi*
24. Elote	(Huaxt.: *ajam*)	*ajan*	*ajam*	
25. Tortilla	*vuacan*	*vua*	*vuail*	
26. Totoposte	*ix vuac*	*vuoc-ox*		
27. Chile	*ich*	*ich*	*ich*	*ich* (Sib.)
28. Camote	*is*	*sis*[4] (=papa allgemein)		*iis*

---

[4] Diese Worte verdanke ich der Mitteilung von Herrn La Farge.

[5] Möglicherweise spanisch: nuca.

	Chicomuceltecо	Jacalteco	Chuj (Solomeño)	Mam
29. Aguacate	*ou*	*koyeû*[6]		*oj*
30. Baum	*te*	*te*	*te*	*tse* (Tac.)
31. Blatt	*sek-clte*			*xa'c*
32. Kiefer	*ta*	*taj*	*taj*	*tzaj*
33. Ceiba	*unap*		*inup* (Baum)	
34. Puma	*chac cho*		*chaj*	
35. Katze	*mis*	*mis*	*mistun*	*mez*
36. Rüsselbär	*pesu*	*tz'u'tz*	*tz'u'tz*	*tzutz*
37. Fledermaus	*sot*	*sootz*	*sootz*	*sootz*
38. Schildkröte	*pctpet*	*a'k*[6]		*pctzin*
39. Schlange	*chan*	*k'an*[6]	*chan*	*k'an*
40. Kröte	*chuch*	*poñom*[6]	*kokoóm*[6]	*x-cho*
41. Ameise	*sanich*	*sanich*	*sanich*	*zini'c*
42. Nigua	*ochem ch'ac*	*k'a'k*	*k'a'k:* Floh	*kia'k*
43. Laus	*uch*	*u'k*	*u'k*	*zac u'k*
44. Zecke	*tip*	*sip*	*sip*	*sip*
45. Schwanz	*veu*	*gnié*	*ne*	*je*
46. Berg	*chen*	*ch'cn:* Stein	*k'cén:* Stein	
47. Weg	*vel*	*bee*	*be*	*be*
48. Wasser	*ha*	*ja*	*a*	*a*
49. Nacht	*akal*	*akbalil*[6]	*takual*[6]	*akual*
50. Wind	*ik*	*kaje*[6]	*i'k*	*kyik*
51. morgen	*kal-ame*	*je-kal*	*k'egan*	
52. weiss	*sak-ni*	*saj*	*sak*	*sak*
53. schwarz	*ek'inik*	*k'ej*	*k'i'k*	*k'c'k*
54. rot	*chacni*	*kaj*[6]	*chakchak*	*chyak*
55. gelb	*k'anni*	*k'an*	*kankan*	*kan*
56. grün	*yaxni*	*yax*	*yaax*	*chax*
57. warm	*k'a'k*	*kaj, kax: heiss*	*tajim*[7]	*chac*
58. kalt	*chail*	*cheu*	*pu-chal-ka*	*chcu*
59. gross	*yejel-ich*	*nim ejal*	*niman*[7]	*nim*
60. krank	*mal tabaaj*	*yaaya*	*jací*[7]	*jabb*
61. alt	*chem inik*	*icham*	*ichan*	
62. jung	*che ton*	*tze*	*a-che*[7]	
63. lang	*nacat*	*najat* (weit)[6]	*najat-yoc*	
64. schwer	*al-tukupam*	*al*[6]	*al*	*al*
65. hier	*teminab atik*	*peti; hat*[6]	*atik*	
66. ja	*bueno itz*	*ho*[6]	*ji*	

---

[6] Diese Worte verdanke ich der Mitteilung von Herrn La Farge.

[7] Bedeutet, dass die entsprechenden Worte dem Solomeño von San Juan Ixcoy entnommen sind, wogegen die Chujworte teils dem Stoll'schen Material (*Die Sprache der Ixil-Indianer,* 1887) teils eigenen Aufzeichnungen in San Mateo Ixtatan und Chaculá entstammen.

Die Mamworte gehen auf Stoll (a. a. 0.) und auf Diego de Reynoso, *Artc y Vocabulario cn Lengua Mame,* 1664 (Neudruck von Charencey) zurück, teilweise entnahm ich sie eigenen Aufnahmen im Mam-Gebiet. Es bedeutet: *SII:* San Ildefonso Ixtahuacan; *Sib.:* Sibinal; *Tec.:* Tectitan; *Tac.:* Tacaná.

UNIVERSITÄT WÜRZBURG

INDEX

INDEX TO AUTHORS AND TITLES

Aboriginal Indian Words and Christopher Columbus, 816–850
Aborigines Sudamericanos, Tipos de Tienda usados por los, 705–712
Aleut Hunting Headgear and its Ornamentation, 477–504
Alfarería Moderna, Fabricacion de en la Region Serrana de la Provincia de Cordoba (República Argentina), 803–815
Alto Paraná Gebiet, Funde Altsteinzeitlicher Werkzeuge im, 347–350
Altsteinzeitliche Werkzeuge, Funde im Alto Parana Gebiet, 347–350
American Indian, Morphologic Evaluation of the, 853–855
American Indians, Northwestern, similarity of Culture of Ancient and Present Kamchadal to, 451–454
Andean Civilization: Some Problems of Peruvian Archaeology, 259–290
Anthropology of Northeast Asiatic Tribes, Contribution to, 881–892
Anthropometry, Note on Shoshoni, 856
Antigüedad del Hombre, en la Región de Sayape, Provincia de San Luis, Republica Argentina (Nota Preliminar), 305–312
de Aparicio, Francisco, Fabricacion de Alfarería Moderna en la Region Serrana de la Provincia de Cordoba (República Argentina), 803–815
Archaeological Collections from the Western Eskimo, Note on Knud Rasmussen's, 395–399
Archaeological Surveys, State, Committee on, 52–59
Architecture, Pueblo Bonito, 70–73
Argentina, Fabricacion de Alfarería Moderna en la Region Serrana de la Provincia de Cordoba, 803–815; la Antigüedad del Hombre en la Región de Sayape, 305–312
Arqueologia del Departamento de Lima—Caracteres Fundamentales de la Arquitectura Andino Costeña, 351–382
Arquitectura Andino Costeña, Caracteres Fundamentales de la, 351–382
Art, Bush-Negro, 728–735; Form and Interpretation in American, 459–462
Arte Precortesiano, Las Plantas Sagradas de los Aztecas y su Influencia sobre el, 101–121
Asiatic Tribes, Northeast, Contribution to Anthropology of, 881–892
Aztec, an Account of the Period of the Toltec Decline, 122–129; Calendar Stone and its Significance, 211–222
Aztecas, las Plantas Sagradas de los, 101–121

Bailes de Culebra entre los Indios Quichés en Guatemala, 661–667
Ball Courts, Maya, 167–171
Barbeau, Marius, The Modern Growth of the Totem Pole on the Northwest Coast, 505–511; the Origin of Floral and other Designs among the Canadian and Neighboring Indians, 512
Bear Worship among the Turkish Tribes of Siberia, 411–440
Benedict, Ruth, Psychological Types in the Cultures of the Southwest, 572–581
Beyer, Hermann, A Deity Common to Teotihuacan and Totonac Cultures, 82–84; The Infix in Maya Hieroglyphs—Infixes touching the Frame, 193–199
Birket-Smith, Kaj, On the Origin of Eskimo Culture, 470–475
Blom, Frans, Preliminary Notes on Two Important Maya Finds, 165–171
Blowgun in America, Indonesia, and Oceania, 699–704
Bogoras, Waldemar G., New Data on the Types and Distribution of Reindeer Breeding in Northern Eurasia, 403–410; The Shamanistic Call and the Period of Initiation in Northern Asia and Northern America, 441–444
Bogoras, Waldemar G. and Leonov, N. J., Cultural Work among the Lesser Nationalities of the North of U. S. S. R., 445–450
Botocudo, la Música y la Danza de las Indias, 796–802
Brasil, Um Enorme Machado dos Indios do, 747–750
Brazil, the Expedition of G. I. Langsdorff to in 1821–1829, 751–759
British Honduras, Recently discovered Maya City in the Southwest of, 188–192
Brüderpaar in der Südamerikanischen Mythologie, 687–698

Bush-Negroes, Ornaments of the, 728–735; of Suriname, Social Organization of, 713–727

Calendar, Ancient Maya, a Modern Survival of, 652–655; Stone, Aztec, and its Significance, 211–222
Canoas Monoxilas y la Navegación Primitiva, 736–746
Capitan, L., Les Idées Récentes sur le Peuplement de l'Amérique, 45–46
Caso, Alfonso, Un Codice en Otomí, 130–135
Causeways, Coba District of Eastern Yucatan, 181–184
Ceremonial Year at Jacaltenango, 656–660
Cherokee Methods of Divination, 547–552
Chichen Itza, Maya and Toltec Figures at, 155–164
Chichimeca, un Vocabulario, 918–925
Chumuchà, a Recently discovered Maya City, 188–192
Cipriani, Lidio, Su Alcuni Caratteri del Cranio Faciale degli Antichi Peruviani, 866–880
Civilizaciones Americanas, Desarrollo y Origen de las, 31–43
Clister, en el Antiguo Peru, 296–297
Coba District, Causeways of, 181–184
Codice en Otomí, 130–135
Columbus, Christopher, and Aboriginal Indian Words, 816–850
Comechingon Pottery, 313–346
Cooper, John M., Field Notes on Northern Algonkian Magic, 513–518
Correlation, Maya and Christian Dates, Factors which may lead to, 136–139
Cranio Faciale degli Antichi Peruviani, su Alcuni Caratteri del, 866–880
Cronoligicas, notas, de Tihuanacu, 298–304
Cross-Cousin Marriage, was it practised by the North-Central Algonkian, 519–544
Cultural, Areas, Prehistoric, East of the Rocky Mountains, 47–51; Relations, between North and South America, 5–22; Work among the Lesser Nationalities of the North of U. S. S. R., 445–450
Cultures, Psychological Types in the Southwestern, 572–581
Cuna Indian Religion, 668–677

Danza de las Tribus Indias Kaa-Ihwua (Guarani) y Botocudo, 796–802
Deity, Common to Teotihuacan and Totonac Cultures, 82–84
Designs, Floral and Other, Origin of among the Canadian and Neighboring Indians, 512
Despueble del Altiplano y Decadencia de su Alta Cultura, la Remocion del Cingulo Climaterico como Factor del, 235–246
Dieseldorff, Erwin P., The Aztec Calendar Stone and its Significance, 211–222
Divination, some Cherokee Methods, 547–552
Dresden Codex, Eclipse Table of the, 140–148
Dyrenkova, N. P., Bear Worship among the Turkish Tribes of Siberia, 411–440

Eclipse Table of the Dresden Codex, 140–148
Ecuador, Späte Mastodonten in, 247–258
Eskimo, Culture, on the Origin of, 470–476; as a Linguistic Type, 895–904; Thule Culture Sites at Point Barrow, Alaska, 383–394
Eurasia, Northern, New Data on the Types and Distribution of Reindeer Breeding in, 403–410
Evangelizzazione e i Costumi degli Indi Luiseños Secondo la Narrazione di un Chierico Indigeno, 633–648
Excavations, Eskimo Thule Culture Sites at Point Barrow, Alaska, 383–394; at Uaxactun, 185–187

Fabricacion de Alfarería Moderna en la Region Serrana de la Provincia de Cordoba (República Argentina), 803–815
Form and Interpretation in American Art, 459–462
Fox Gens Festivals, Note on, 545–546
Frammento d'un Dizionarietto Luiseño-Spagnuolo Scritto da un Indigeno, 905–917

Gann, Thomas, Recently discovered Maya City in the Southwest of British Honduras, 188–192
Gardner, G. A., Comechingon Pottery, 313–346
Gens Festivals, Note on Fox, 545–546
González Casanova, P., Un Vocabulario Chichimeca, 918–925
Greslebin, Héctor, La Antigüedad del Hombre en la Región de Sayape, Provincia de San Luis, Republica Argentina (Nota Preliminar), 305–312
Guatós, une Moustiquaire des Indiens, 792–795
Gusinde, Martin, Das Brüderpaar in der Südamerikanischen Mythologie, 687–698
Guthe, Carl E., The Committee on State Archaeological Surveys of the Division of Anthropology and Psychology, National Research Council, 52–59

Hagar, Stansbury, The Symbolic Plan of Palenque, 200–210
Hallowell, A. Irving, Was Cross-Cousin Marriage practised by the North-Central Algonkian? 519–544
Headgear, Aleut, Hunting, and its Ornamentation, 477–504
Herskovits, Melville J., The Social Organization of the Bush-Negroes of Suriname, 713–727
Herzog, George, Musical Styles in North America, 455–458
Hieroglyphs, Maya, the Infix in, 193–199
Hirtzel, J. S. Harry, Le Manteau de Plumes dit de ''Montézuma,'' des Musées Royaux du Cinquantenaire de Bruxelles, 649–651
Hoffmân, Frederick L., The Navaho Population Problem, 620–632
Hough, Walter, Ancient Pueblo Subsistence, 67–69
Hrdlička, Aleš, Migrations from Asia to America and their Traces, 44

Incas en Cuzco, el Templo del Sol de, 291–295
Indian, Gifts in Relation to Primitive Law, 463–469; Words, Aboriginal and Christopher Columbus, 816–850
Indianer, wann Kamen die, nach Nordamerika? 23–30
Indigeni Americani, Ricerche e Risultati intorno agli, 857–865
Infix, in Maya Hieroglyphs, 193–199
Initiation, Period of, and the Shamanistic Call in Northern Asia and Northern America, 441–444
Ivanov, S. V. Aleut Hunting Headgear and its Ornamentation, 477–504

Jacaltenango, the Ceremonial Year at, 656–660
Jochelson, Waldemar, The Ancient and Present Kamchadal and the Similarity of their Culture to that of the Northwestern American Indians, 451–454
de Josselin de Jong, J. P. B., The Natchez Social Class System, 553–562
Judd, Neil M., Pueblo Bonito and its Architectural Development, 70–73

Kaa-Ihwua, la Música y la Danza de, 796–802
Kachina Cult of the Pueblos, Spanish Elements in the, 582–603
Kamchadal, Ancient and Present, similarity of their Culture to that of the Northwestern American Indians, 451–454
Kaingangs de Sao Paulo, 760–791
Keresan Medicine Societies, a Comparative Study of, 604–619
Kinship, Siouan, Some Aspects of, 563–571
Koppers, Wilhelm, Die Frage Eventueller Alter Kulturbeziehungen zwischen dem Südlichsten Südamerika und Südostaustralien, 678–686
Kroeber, A. L., Cultural Relations between North and South America, 5–22; Discussion by, 685–686
Kulturbeziehungen zwischen dem Südlichsten Südamerika und Südostaustralien, 678–686
Kunz, George Frederick, Precious Stones used by the Prehistoric Residents of the American Continent, 60–66

La Farge, Oliver, The Ceremonial Year at Jacaltenango, 656–660
Langsdorff, G. I., the Expedition of to Brazil in 1821–1829, 751–759
Law, Primitive, Indian Gifts in Relation to, 463–469
Leonov, N. J. and Bogoras, Waldemar G., Cultural Work among the Lesser Nationalities of the North of U. S. S. R., 445–450
Lesser, A., Some Aspects of Siouan Kinship, 563–571
Lesser Nationalities of the North of U. S. S. R., Cultural Work among the, 445–450
Lopez, L. Vélez, El Clister en el Antiguo Peru, 296–297
Lothrop, S. K., A Modern Survival of the Ancient Maya Calendar, 652–655
Lunar Table, Mayan, 149–154

Machado Crescente dos Indios do Brasil, 747–750
Magic, Field Notes on Northern Algonkian, 513–518
Maniser, H. H., Les Kaingangs de Sao Paulo, 760–791
Manteau de Plumes dit de ''Montézuma'' des Musées Royaux du Cinquantenaire de Bruxelles, 649–651
Márquez Miranda, Fernando, La Navegación Primitiva y las Canoas Monoxilas (Contribución a su Estudio), 736–746
Marriage, Cross-Cousin among the North-Central Algonkian, 519–544
Martínez Hernández, Juan, The Mayan Lunar Table, 149–154
Mason, J. Alden, Excavations of Eskimo Thule Culture Sites at Point Barrow, Alaska, 383–394

Mastodonten, Späte in Ecuador, 247–258
Mathiassen, Therkel, Notes on Knud Rasmussen's Archaeological Collections from the Western Eskimo, 395–399
Maya, Ball Courts, 167–171; Calendar, Modern Survival of the Ancient, 652–655; and Christian Dates, Factors which may lead to Correlation, 136–139; City, Recently discovered in the Southwest of British Honduras, 188–192; Figures at Chichen Itza, 155–164; Finds, Preliminary Notes on Two Important, 165–171; Hieroglyphs, Infixes touching the Frame in, 193–199; Lunar Table, 149–154; Textiles, 165–167
Mayasprache von Chicomucelo, 926–936
Mayntzhusen, F. C., Funde Altsteinzeitlicher Werkzeuge im Alto Paraná Gebiet, 347–350
Medicine Societies, Keresan, a Comparative Study of, 604–619
de Mendizábal, Miguel O., Influencia de la Sal en la Distribución Geografica de los Grupos Indigenas de Mexico, 93–100
Mexican Pottery, Decorative Aspects of Certain Types of, 85–92
Mexico, Distribución de los Grupos Indigenas, 93–100; Pirámide de Tenayuca, Exploración en la, 172–180
Michelson, Truman, Note on Fox Gens Festivals, 545–546; Note on Shoshoni Anthropometry, 856
Middle America, Notes on Middle Cultures of, 74–81
Migrations from Asia to America and their Traces, 44
Modern Growth of the Totem Pole on the Northwest Coast, 505–511
Moorehead, Warren King, Prehistoric Cultural Areas East of the Rocky Mountains, 47–51
Morphologic Evaluation of the American Indian, 853–855
Moustiquaire des Indiens Guatós (Brésil), 792–795
Musical Styles in North America, 455–458
Música y la Danza de las Tribus Indias Kaa-Ihwua (Guarani) y Botocudo, 796–802
Mythologie, das Brüderpaar in der Südamerikanischen, 687–698

Natchez Social Class System, 553–562
Navegación Primitiv y las Canoas Monoxilas (Contribución a su Estudio), 736–746
Noguera, Eduardo, Decorative Aspects of Certain Types of Mexican Pottery, 85–92
Nordenskiöld, Erland, Cuna Indian Religion, 668–677
North America, Musical Styles in, 455–458
North-Central Algonkian, was Cross-Cousin Marriage practised by the? 519–544
Northern Algonkian Magic, Field Notes on, 513–518
Northern Asia and Northern America, the Shamanistic Call and the Period of Initiation, 441–444
North and South America, Cultural Relations between, 5–22
Northwest Coast, Modern Growth of the Totem Pole on the, 505–511
Northwestern American Indians, Similarity of the Culture of the Ancient and Present Kamchadal to, 451–454

Oetteking, Bruno, Some Points in the Morphologic Evaluation of the American Indian, 853–855
Olbrechts, Frans M., Some Cherokee Methods of Divination, 547–552
Origin, of Eskimo Culture, 470–476; Floral and Other Designs, among the Canadian and Neighboring Indians, 512
Ornaments of the Bush-Negroes in Dutch Guiana; a Further Contribution to Research in Bush-Negro Art, 728–735
Otomí, un Codice en, 130–135

Palavecino, Enrique, Tipos de Tienda usados por los Aborigines Sudamericanos, 705–712
Palenque, Symbolic Plan of, 200–210
van Panhuys, L. C., Ornaments of the Bush-Negroes in Dutch Guiana; a Further Contribution to Research in Bush-Negro Art, 728–735
Parsons, Elsie Clews, Spanish Elements in the Kachina Cult of the Pueblos, 582–603
Penck, Albrecht, Wann Kamen die Indianer nach Nordamerika? 23–30
Peru, Arqueologia del Departamento de Lima, 351–382; El Clister en el Antiguo, 296–297; Some Problems of the Archaeology of, 259–290
Peuplement de l'Amérique, les Idées Récentes sur le, 45–46
Pirámide de Tenayuca, Exploración en la, 172–180
Plantas Sagradas de los Aztecas, 101–121
Population Problem, the Navaho, 620–632
Posnansky, Arthur, La Remocion del Cingulo Climaterico como Factor del Despueble

del Altiplano y Decadencia de su Alta Cultura, 235–246; Notas Cronologicas de Tihuanacu, 298–304
Pottery, Comechingon, 313–346; Decorative Aspects of Certain Types of Mexican, 85–92
Prehistoric, Americans, Precious Stones used by, 60–66; Cultural Areas, East of the Rocky Mountains, 47–51
Preuss, K. Th., Die Ausstrahlung der San Agustin-Kultur (Kolumbien) in Amerika, 233–234
Psychological Types in the Cultures of the Southwest, 572–581
Pueblo, Bonito and its Architecture, 70–73; Subsistence, Ancient, 67–69; Spanish Elements in the Kachina Cult of the, 582–603

Quichés, los Bailes de Culebra entre, 661–667

Rasmussen, Knud, Notes on Archaeological Collections of from the Western Eskimo, 395–399
Reichard, Gladys A., Form and Interpretation in American Art, 459–462
Reindeer Breeding in Northern Eurasia, New Data on the Types and Distribution of, 403–410
Religion, Cuna Indian, 668–677
Remocion del Cingulo Climaterico como Factor del Despueble del Altiplano y Decadencia de su Alta Cultura, 235–246
Reygadas Vertiz, José, Exploración en la Pirámide de Tenayuca por la Direccion de Arqueologia de Mexico, 172–180
Ricerche e Risultati intorno agli Indigeni Americani, 857–865
Ricketson, Oliver, Jr., The Excavations at Uaxactun, 185–187

Sal, Influencia en la Distribución Geografica de los Grupos Indigenas de Mexico, 93–100
San Agustin-Kultur (Kolumbien), die Ausstrahlung der, in Amerika, 233–234
Sapper, Karl, Die Erhaltung der Altindianischen Stein-Denkmäler, 223–232
Sergi, Giuseppe, Ricerche e Risultati Intorno agli Indigeni Americani, 857–865
Shamanistic Call and the Period of Initiation in Northern Asia and Northern America, 441–444
Shoshoni Anthropometry, Note on, 856
Siberia, Turkish Tribes, Bear Worship among, 411–440
Simoens da Silva, Antonio Carlos, Um Enorme Machado Crescente dos Indios do Brasil, 747–750; Une Moustiquaire des Indiens Guatós (Brésil), 792–795
Siouan Kinship, some Aspects of, 563–571
Social, Class System, Natchez, 553–562; Organization of the Bush-Negroes of Suriname, 713–727
Spanish Elements in the Kachina Cult of the Pueblos, 582–603
Spinden, H. J., The Eclipse Table of the Dresden Codex, 140–148
Sprinzin, Noemi G., The Blowgun in America, Indonesia, and Oceania, 699–704
State Archaeological Surveys, Committee on, 52–59
Stein-Denkmäler, Erhaltung der Altindianischen, 223–232
Strelnikov, I. D., The Expedition of G. I. Langsdorff to Brazil in 1821–1829, 751–759; La Música y la Danza de las Tribus Indias Kaa-Ihwua (Guarani) y Botocudo, 796–802
Swanton, John R., discussion by, 511, 561
Symbolic Plan of Palenque, 200–210

Tagliavini, Carlo, L'Evangelizzazione e i Costumi degli Indi Luiseños Secondo la Narrazione di un Chierico Indigeno, 633–648; Frammento d'un Dizionarietto Luiseño-Spagnuolo Scritto da un Indigeno, 905–917
Teeple, John E., Factors which may lead to a Correlation of Maya and Christian Dates, 136–139
Tello, Julio C., Andean Civilization: Some Problems of Peruvian Archaeology, 259–290
Templo del Sol de los Incas en Cuzco, 291–295
Tenayuca, Exploración en la Pirámide de, 172–180
Teotihuacan, Culture, Deity Common to, 82–84
Termer, Franz, Los Bailes de Culebra entre los Indios Quichés en Guatemala, 661–667; Über die Mayasprache von Chicomucelo, 926–936
Textiles, Maya, 165–167
Thalbitzer, William, Eskimo as a Linguistic Type, 895–903; Discussion of Eskimo papers, 476
Thompson, J. Eric, The Causeways of the Coba District, Eastern Yucatan, 181–184
Thule Culture Sites at Point Barrow, Alaska, 383–394

Tienda, Tipos de, usados por los Aborigines Sudamericanos, 705–712
Tihuanacu, Notas Cronologicas de, 298-304
Toltec, Decline, Aztec account of, 122–129; Figures at Chichen Itza, 155–164
Toro, Alfonso, Las Plantas Sagradas de los Aztecas y su Influencia sobre el Arte Precortesiano, 101–121
Totem Pole, Modern Growth of on the Northwest Coast, 505–511
Totonac Culture, Deity Common to, 82–84
Tozzer, Alfred M., Maya and Toltec Figures at Chichen Itza, 155–164
Turkish Tribes of Siberia, Bear Worship among, 411–440

Uaxactun, excavations at, 185–187
Uhle, Max, Desarrollo y Origen de las Civilizaciones Americanas, 31–43; Späte Mastodonten in Ecuador, 247–258; El Templo del Sol de los Incas en Cuzco, 291–295

Vaillant, George C., Notes on the Middle Cultures of Middle America, 74–81
Villar Cordova, Pedro Eduardo, Arqueologia del Departamento de Lima—Caracteres Fundamentales de la Arquitectura Andino-Costeña, 351–382
Vishnevsky, Boris, Contribution to the Anthropology of the Northeast Asiatic Tribes, 881–892.
Vocabulario Chichimeca, 918–925

Wardle, H. Newell, Indian Gifts in Relation to Primitive Law, 463–469
Western Eskimo, Notes on Knud Rasmussen's Archaeological Collections from, 395–399
White, Leslie A., A Comparative Study of Keresan Medicine Societies, 604–619
Whorf, Benjamin L., An Aztec Account of the Period of the Toltec Decline, 122–129
Williams, The Reverend James, Christopher Columbus and Aboriginal Indian Words, 816–850

Yucatan, Eastern, Causeways of the Coba District of, 181–184